JUNE 1957

PRINTING EQUIPMENT *Engineer*

Report on Nylon Letterpress Printing Plate

R&EC, TAGA, Carnegie Tech and NALC Meeting Reports

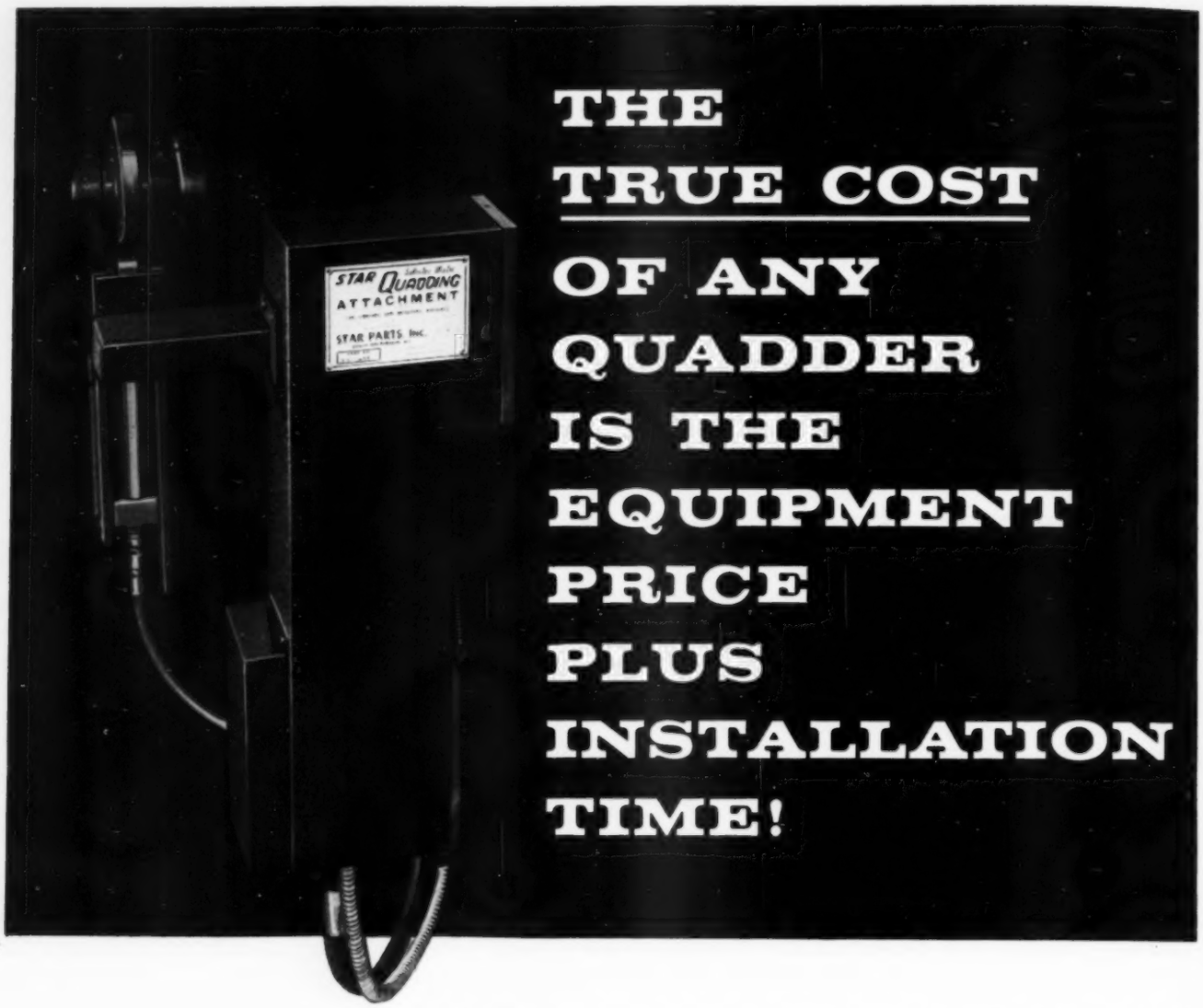
Presensitized Offset Plates—Part I

ANPA Mechanical Conference Meets in Chicago

Colonial Print Shop at Williamsburg, Va.
(SEE PAGE 5)
(Authenticated News Photo)

Please Pass On To:

THE INDUSTRY-WIDE TECHNICAL PUBLICATION



THE TRUE COST OF ANY QUADDER IS THE EQUIPMENT PRICE PLUS INSTALLATION TIME!

. . . and only the Star Selectro-Matic Quadder can be installed in 8 hours. Simplicity of design makes this short installation time possible. Typical of the Star Quadders' simplicity is its Hydraulic System. It consists of two cylinders with pistons and a single connecting hose. The electrical and mechanical components are just as simple to install and maintain. That's why your line-casting machine will be back in production faster, turning out more slugs than ever before, after a single-shift Selectro-Matic installation.

This is but one of the many reasons why you should consider the Star Selectro-Matic Quadder. You'll find the complete story in our 8 page illustrated brochure. Write for it today!

Remember, if Teletypesetter is installed in your composing room, the Selectro-Matic Quadder can be converted to tape operation in minutes. No dismantling or rewiring is necessary.

Write us for literature and further information.

BRANCH:
1327 BROADWAY, KANSAS CITY, MO.

AGENCIES:
CHICAGO • MINNEAPOLIS
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STAR PARTS, Inc.
★ Precision TRADE ★ MARK Parts ★
SOUTH HACKENSACK, N. J.

For More Information Circle 154 on Reader Service Card

WE CONGRATULATE

The Miami Herald

on winning the award co-sponsored by the National Press Photographers Association and the Encyclopaedia Britannica, Inc.

"For Consistent Excellence in R. O. P. Color Printing"

The Miami Herald is Printed with our

R. O. P. COLORS

ANPA – AAAA SPECIFICATIONS

Your Printing Also Deserves the Best . . .

Flint Ink Company

• Letterpress • Lithographic • Flexographic

DETROIT · NEW YORK · CHICAGO · LOS ANGELES
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ATLANTA · NEW ORLEANS · TULSA · HOUSTON

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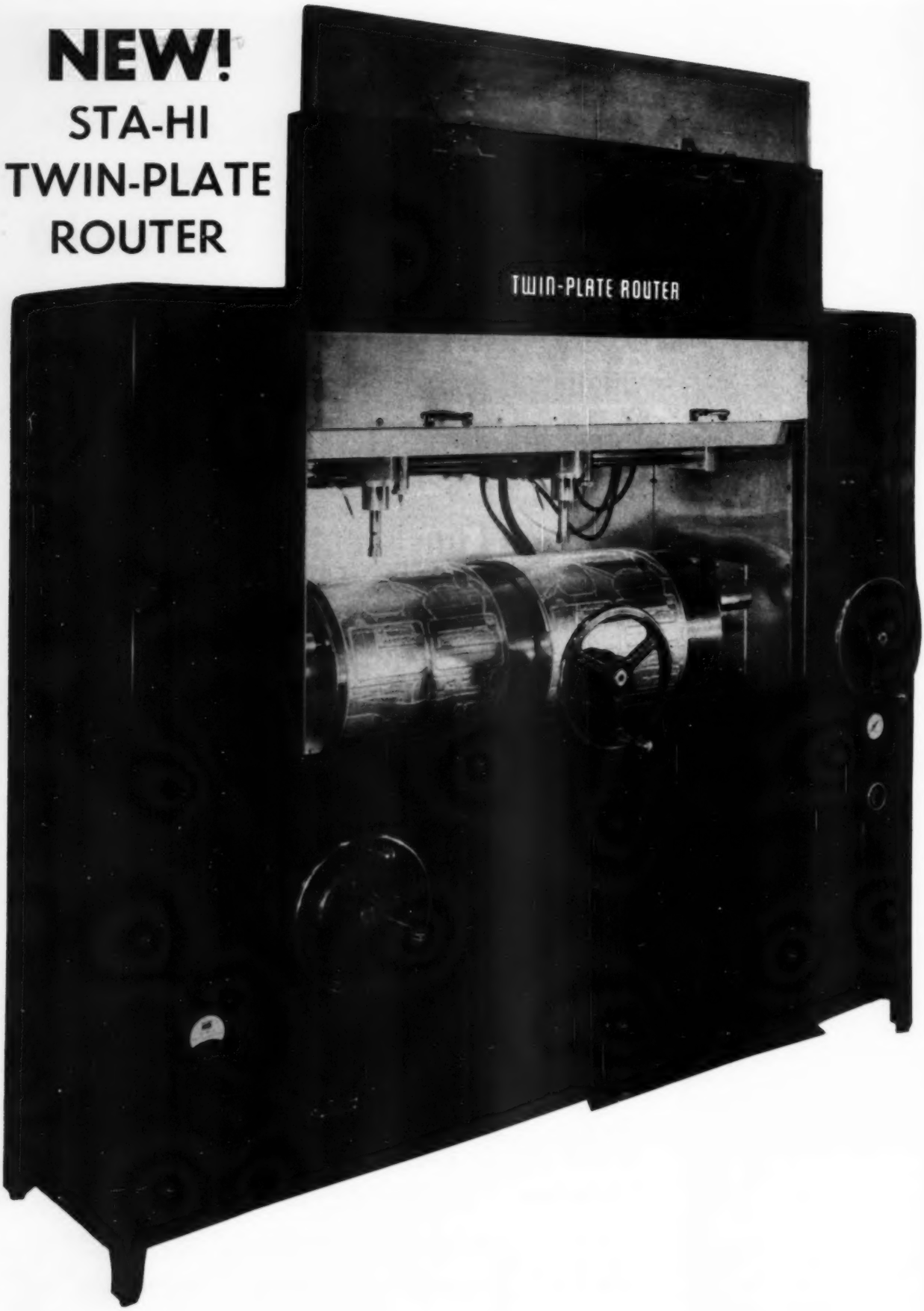
NEW!
STA-HI TWIN-PLATE ROUTER



now in production! . . . . .

. . . . . now in production!

the all new Sta-Hi TWIN-PLATE ROUTER

For simultaneous routing of two identical curved newspaper stereotype page plates.

Has design innovations and operating features never before available in any curved plate router!

Establishes new high standards of economy, speed and precision in newspaper color production.

SEE this time and money saving machine in operation at Sta-Hi's Exhibit Booths #55 and #56 at the ANPA Mechanical Conference. Or ask for a copy of our descriptive bulletin.

STA-HI CORPORATION

. . . probing new horizons in newspaper production

FACTORY AND OFFICES: 235 W. WASHINGTON BOULEVARD, WHITTIER, CALIFORNIA

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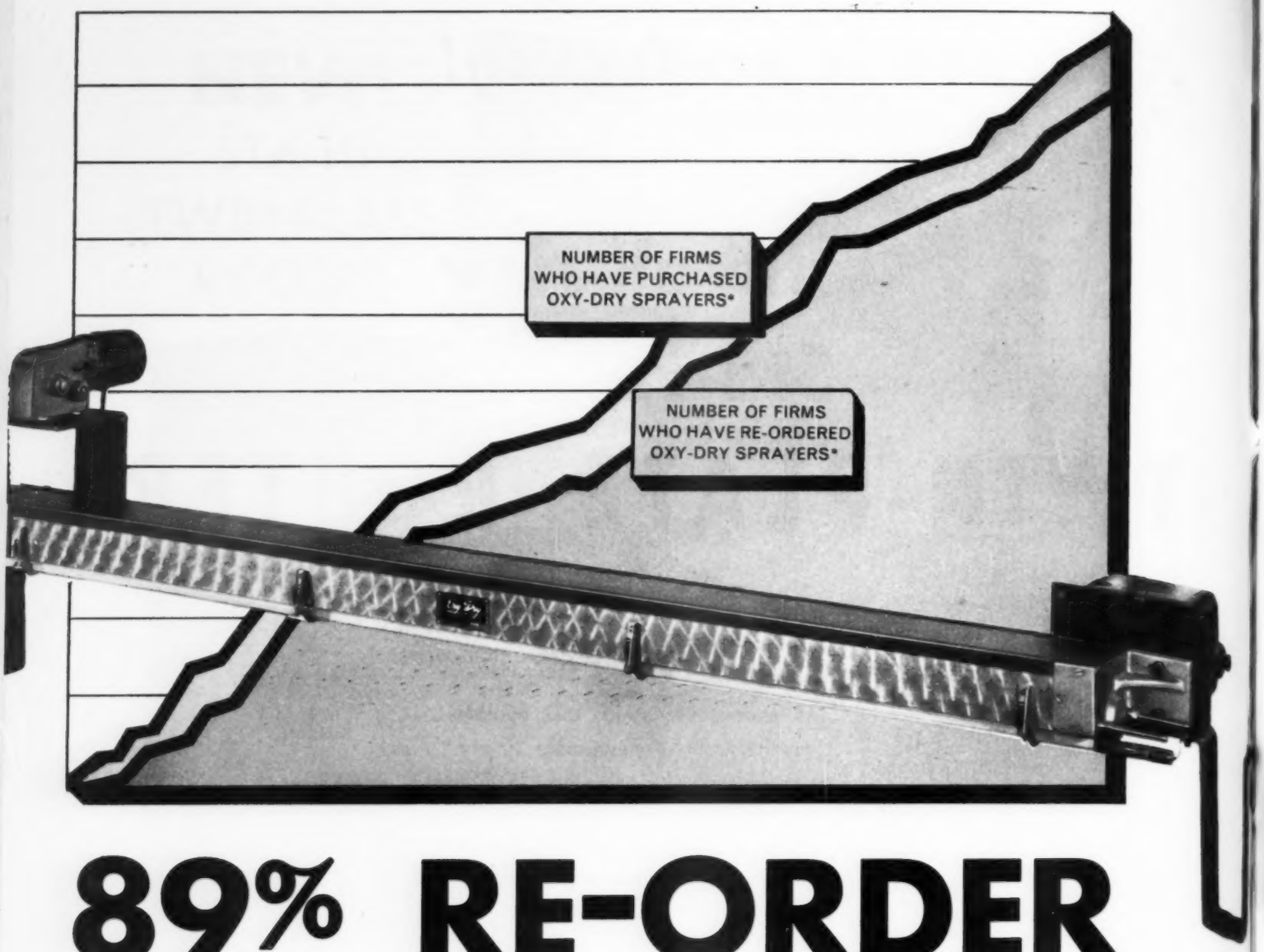

89% RE-ORDER

OVERWHELMING PROOF OF USERS' SATISFACTION WITH OXY-DRY SPRAYERS*

The successful operation of OXY-DRY* sprayers in leading printing plants that resulted in 89% repeat orders for OXY-DRY* sprayers is indisputable evidence of the superiority of OXY-DRY* sprayers over any other offset prevention equipment.

This outstanding achievement is further demonstrated by the number of customers who have installed not just 2, 3, 4 or 5 OXY-DRY* sprayers but as many as 57 units.

OXY-DRY* sprayers are in daily operation in 41 states, Canada and many foreign countries. OXY-DRY* sprayers are used in every branch of printing including the rapidly growing plastics packaging field.

Repeat orders and the growing number of printers who purchase OXY-DRY* sprayers tell an amazing user satisfaction story. To keep up with competition, investigate the profit possibilities of OXY-DRY* sprayers for your plant. Write, wire or phone us today for more information or a plant survey.

**FULLY PROTECTED BY U.S. PATENTS.*

OXY-DRY *sells profits to printers*

OXY-DRY SPRAYER CORPORATION

NEW YORK CHICAGO SAN FRANCISCO

Dept. PE, 1134 West Montrose Avenue, Chicago 13, Illinois

Also Manufacturers of:

ANTI-INK OFFSET POWDERS • ELECTRONIC NEUTRALIZERS • SHEET CLEANERS • WEB CLEANERS • DIE-CUT BLANK CLEANERS • PLATE WASHERS & DRYERS • PLATE GRAINERS

For More Information Circle 108 on Reader Service Card

JUNE 1957
VOLUME 87 NO. 9

PRINTING EQUIPMENT *Engineer*

THE INDUSTRY-WIDE TECHNICAL PUBLICATION

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in all major processes of the Graphic Arts industry.

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Member Publications BPA Business Audit

Accepted as Controlled Circulation Publication at Cleveland, Ohio.

OUR COVER: The 18th century colonial printing office in Williamsburg, Va. pictured on this month's cover contrasts sharply with the multi-million dollar modern newspaper plants featured on pages 82-84. It is refreshing at times, however, to look back historically upon the printing industry of 200 years ago and view in perspective our advances to this era of high-speed production and automated operations. One can do this looking back at Williamsburg which has included an early American print shop in the restoration of a town founded in 1698. Attendants in colonial uniforms and skilled craftsmen at Williamsburg use tools and implements similar to those used by William Parks, pioneer printer, when he began publication of *The Virginia Gazette* from this print shop.

Four-unit, ATF web-fed offset press at Pacific Press, Inc., of Los Angeles. This equipment handles webs up to 35" in width at speeds of up to 20,000 cylinder revolutions per hour. It prints on both sides of the web simultaneously (perfecting), delivering thousands of high-quality signatures per hour. It's equally efficient for black & white or color work ... can actually print 8 colors at once—4 colors on each side of the web.

why one ATF web-fed offset press leads to another... and another

The press illustrated was installed last summer. Pacific Press, Inc., of Los Angeles is sold on the speed, quality reproduction and folding versatility of their new ATF web-fed offset press. Their second press has now gone into operation at the plant of Phillips & Van Orden in San Francisco.

Pacific Press ordered these two new 4-unit, 8-color publication presses to better serve the need of our ever-expanding western economy. They both are producing single and multi-color, high-quality publication work. More and more publication printers throughout the country are becoming aware of the terrific record these ATF web-fed rotary offset perfecting presses are making in the publication field for top-quality, high-volume, low-cost reproduction of sales manuals, advertising specialties, magazines, books, packaging materials, folders and newspapers.

Today, ATF offers publication printers:

- **Presses famous for quality work, simple operation, and fast changeovers.**
- **Low initial costs, thanks to the standardization of many components.**

Your ATF representative calls on a storehouse of practical experience that helps new users get into full swing as fast as possible. Call him today. Consult your local 'phone directory or contact American Type Founders, 200 Elmora Avenue, Elizabeth, New Jersey.

ATF ***better, more profitable printing... from the most complete line of equipment***

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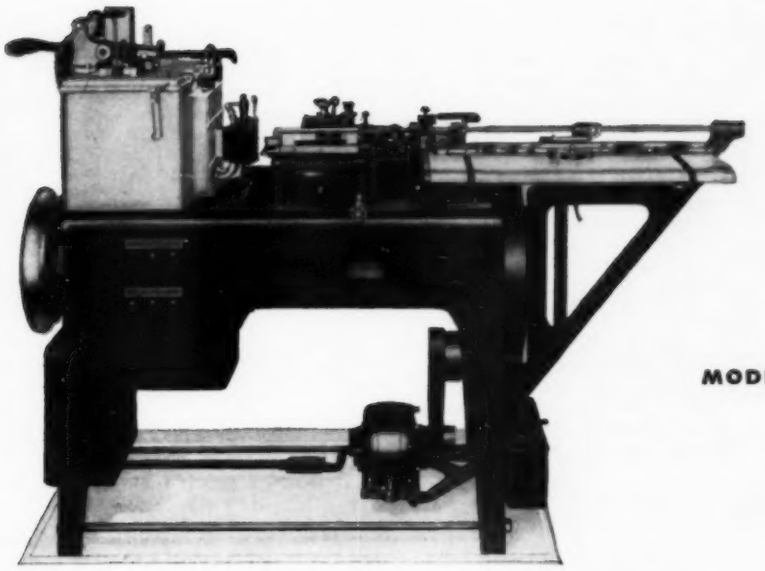


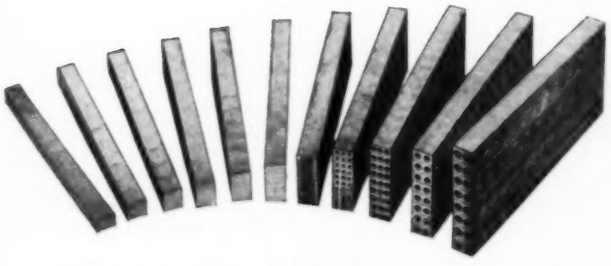
MODEL F ELECTRIC

Produces leads, slugs, rule and base material from 1 point to 36 points.

6 Elrods

More than 70% of all the daily newspapers in the United States and Canada use the Elrod for their strip material requirements. This leadership is understandable because it is based on the Elrod's well-earned reputation for simplicity, dependability, and maximum production of quality material at the lowest possible cost. In addition, there are six different models to fit the particular needs of different plants. See your Elrod representative today if you have a strip material problem.

Elrod molds are interchangeable between the different models



Showing wide range of sizes from a single machine

MODEL F GAS

Same range of sizes as the Model F Electric machine. Same quality material.

MODEL E ELECTRIC

Produces leads, slugs, rule and base material from 1 point to 18 points.

MODEL E GAS

Same range of sizes as the Model E Electric machine. Same quality material.

MODEL K ELECTRIC

Produces leads, slugs, rule and base material from 1 point to 18 points. Ideal for the smaller plants.

MODEL K GAS

Same range of sizes as the Model K Electric machine. Meets most requirements of the composing room.

Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14

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Letters
TO THE EDITORS

Handling Saw Problem

We were most appreciative of the illustrated article about our plant in the March issue. We were impressed with the comprehensive reproduction of our shop floor plan.

Answering the specific question about the reason for the location of our saws, our typography business includes a considerable amount of national newspaper advertising, much of which is made up with type and wood mounted plates. Consequently, we have placed wood and metal saws together in the saw booths. Actually, we have three booths, two of which have one saw for wood and one saw for metal, while the third booth has two saws for metal and one for wood. In addition we have smaller saws for metal in two or three other locations in the plant. We have felt there have not been many wasted steps.

Furthermore, our working tops are kept well filled with material so that it is not necessary for a compositor to use a saw too frequently.

Thos. P. Henry, President
The Thos. P. Henry Co.
Detroit

Rollo Hasn't Changed

A number of readers commented about a picture caption in connection with the Northwest Mechanical Conference report carried in the April issue. We had it that Rollo Lewis represented New England Newspaper Supply Co. Some reader comment was as follows:

"When did Rollo leave Beveridge?"

"Did you do this purposely?"

"Golly, how some of our supplier friends get around!"

"I don't believe it."

Rollo Lewis still is sales manager, New Products Div., Beveridge Paper Co. He reports he's happy in this job. The mistake in associating him with another company was an editorial boo boo pure and simple.

Quido Herman's Article Best Ever

Printing Equipment Engineer is pretty swell as is. Incidentally, Quido Herman's article (p. 44, Apr.) is the best ever on the subject.

George Findlay
Machinst
Tribune Pub. Co.
Meadville, Pa.

Clockwise or Counterclockwise?

It has been a pleasure to see your magazine grow and improve it seems with every issue. I enjoy reading it every month.

May I call your attention to the position of the floor plan layout of the Commercial Printing Div., Honolulu (H.I.) *Star-Bulletin* on page 53, April issue? This page should be turned so the foot of the page is positioned at the right. In other words, positioned so that the reader may turn the page clockwise instead of counterclockwise. This mistake is often made even in printing high grade books. Standard practice in book printing is to always position this type of page as mentioned above.

W. W. Hitchner
Pressroom Supt.
Robert O. Law Co.
Chicago

Is there any other reader comment?

Valuable in Work

I have a great deal of respect for the work you have done with *Printing Equipment Engineer* and find that it is an extremely valuable publication in our work.

William J. Mariner
The Case-Hoyt Corp.
Rochester, N.Y.

Feels Book is Worthless

As superintendent of a printing plant, I think you will be interested in my opinion of *Operation of the Offset Press,* by Theodore F. Makarius, which I ordered and received from your magazine. Never in my 30 years association with the Graphic Arts have I been confronted with a publication containing *less* useful subject matter and complete lack of informative material. In reality I received a volume which in my opinion, though nicely printed and bound, consists of many words about nothing.

Plant Superintendent

Dear Plant Superintendent—*Author of* Operation of the Offset Press, *was press foreman of a first rate color printing plant. We queried several competent offset executives about the book, all of whom vouch for his ability to operate offset presses and transmit information about them. The book is written in essay style which makes for easy reading. There is much worthwhile information in it which is instructive in many ways. The information contained in the book is well worth the price. The book was written in* 1955. *However, just to show how fast the offset industry is moving, we mention there is no specific reference to the presensitized plate which has made such an impression upon the industry that presensitized plates are now being produced in* 35 *in. by* 45 *in. and larger sizes. We have suggested to superintendent-reader that we will gladly refund the purchase price upon return of the book.* Printing Equipment Engineer *has sold quite a number of copies of* Operation of the Offset Press *with satisfaction to the puchaser.*

Invitation to Readers

Readers of *Printing Equipment Engineer* are invited to send (informally in a letter) some production or mechanical method or device which has improved production. Other executives will appreciate your generosity.

Scripts KERNING No darkroom SIMPLE economical 10,000 fonts quality 6 to 90 pt. Wide Range

FIND OUT WHY

Big Type

will cost less with

PROtype

SEND IN COUPON

Advertising Department 30C
Mergenthaler Linotype Company
29 Ryerson Street, Brooklyn 5, N.Y.

Send me free explanatory literature on ProType.

Name_____

Company_____

Address_____

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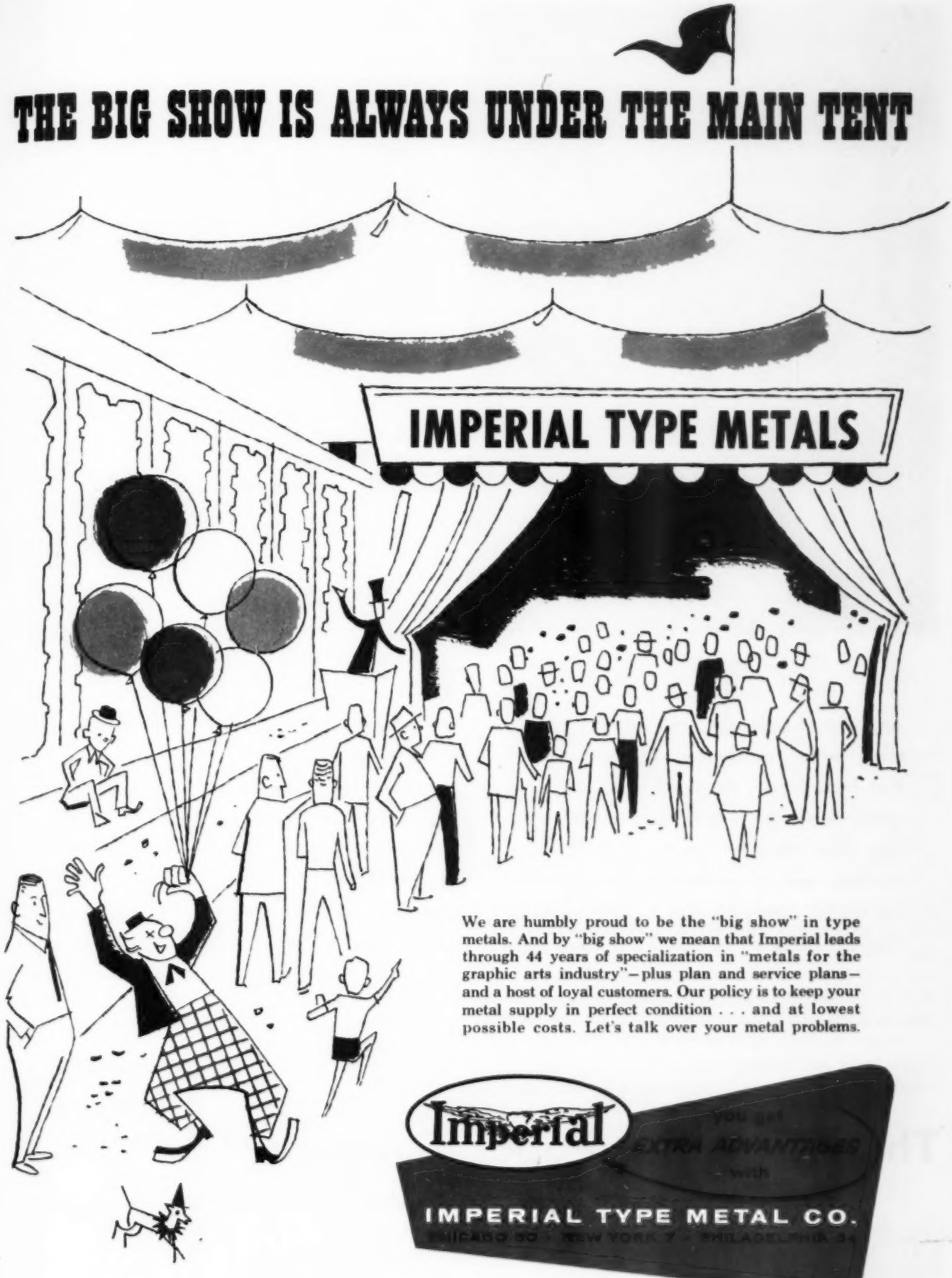
THE BIG SHOW IS ALWAYS UNDER THE MAIN TENT



We are humbly proud to be the "big show" in type metals. And by "big show" we mean that Imperial leads through 44 years of specialization in "metals for the graphic arts industry"—plus plan and service plans—and a host of loyal customers. Our policy is to keep your metal supply in perfect condition . . . and at lowest possible costs. Let's talk over your metal problems.

Imperial

you get EXTRA ADVANTAGES with

IMPERIAL TYPE METAL CO.

CHICAGO 50 • NEW YORK 7 • PHILADELPHIA 34

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Beveridge...

Mats of Distinction

Any user of Beveridge Mats knows that they have certain outstanding inherent qualities that immediately distinguish them from all other mats. For one thing constant results case after case, for another faithful reproductions, and still another dependable printing results. Sure, all mats claim these qualities—but living up to claims has given these Beveridge Mats a national reputation for Mats of Distinction.

Paramount a white-colored mat and *Hi-Cushion* a ivory-colored mat—both for syndicate work. *Hi-Speed* and *Multi-Cast* mats for newspaper work.

One order will convince you of their fine quality.

NEW PRODUCTS DIVISION

The Beveridge Paper Company

Indianapolis 4, Indiana

All mats available for immediate shipment plus a complete line of stereotype supplies and equipment. 60 years' experience in making precision papers is embodied in BEVERIDGE DRY MATS.

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HERE'S THE CONTROL THAT EARNS YOU AN EXTRA $100 PER DAY

HURLETRON'S NEW WEB ALIGNER

Here's What it Does:

1 Increases Production 26%

2 Saves Up to 60% on Printed Waste Alone

3 Reduces Backbone and Lap Deviation by 75% on a Former Board Folder

4 The Fastest Acting Web Weave Control on the Market

If you want the fastest acting web weave control on the market today . . . then HURLETRON has it. Recent field tests prove that the New HURLETRON Web Weave Aligner pays for itself in printed waste alone in 5 to 8 months on a modern, high speed letterpress. Under most extreme web deviation the HURLETRON Web Weave Aligner holds to a tolerance of plus or minus 1/64".

On high speed, multicolor letterpresses, the HURLETRON Web Aligner is invaluable for controlling backup between sides and lap on former board folders, and head to foot variations on jaw type folders. It is the only control on the market today that keeps up with rapid excursions of the web. A complete HURLETRON system of web control saves up to 60% in all printed waste . . . earns $100 per day on a typical application. Ask about HURLETRON'S complete package . . . a training program, plus periodic, tuition free, refresher courses for your operating and maintenance personnel. Write or phone TODAY!

HURLETRON Electric Eye Equipment Company

1930 EAST FAIRCHILD STREET, DANVILLE, ILLINOIS

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Lake Erie

DIRECTOMAT

for direct pressure stereotype mat molding...for commercial, syndicate, daily newspaper and R.O.P. color work.

(above)

800 TON DIRECTOMAT

Recent installations include Philadelphia Bulletin, King Features Syndicate, New York, Roto-Color, Inc. (Pioneer Publishing Company), St. Charles, Illinois, Photo Engravers and Electrotypers, Ltd., Toronto. More than 260 Directomats already serve leading newspapers and commercial plants.

(left)

1000 TON HEAVY DUTY DIRECTOMAT

used by Rapid Grip & Batten Ltd., Toronto, The Milwaukee Journal (2), Chicago Tribune, Denver Post, Detroit News (on order).

The people who use it prove it:

Lake Erie is the best equipment for

DUPLICATE LETTERPRESS PLATE MOLDING

Lake Erie

ACRAPLATE

for rubber and plastic plate molding... five models from 115 to 550 tons with platen sizes from 17″ x 22″ to 36″ x 44″.

270 TON ACRAPLATE

Three companies each have more than 20 ACRAPLATES in service. Five more have from 10 to 20 apiece. Over eighty companies have two or more ACRAPLATES. In all, over 650 ACRAPLATES have been sold.

WRITE FOR

Directomat Bulletin 349

...Acraplate Bulletin 350

LAKE ERIE HYDRAULIC PRESSES

LAKE ERIE MACHINERY CORPORATION, successor to

LAKE ERIE ENGINEERING CORPORATION

568 Woodward Avenue, Buffalo 17, New York

Manufacturers of the Most Complete Line of Hydraulic Presses for All Industry

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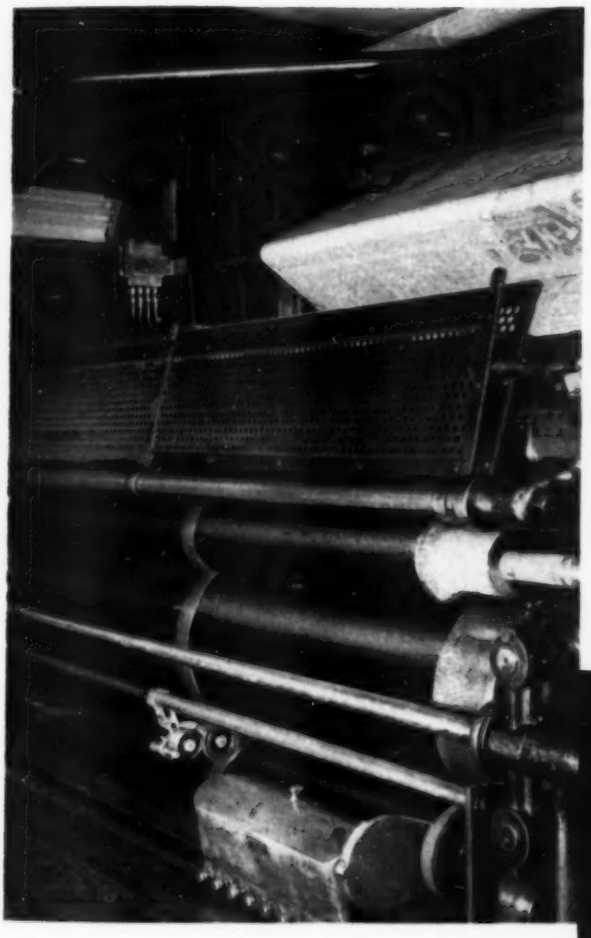
YOU GET THE FINEST ROP COLOR WITH THIS DAYCO COMBINATION

New Dayco Tru-Set Rollers and Color Separators press-proved on fastest runs...



These New *Dayco Rollers and Dayco Color Separators deliver better ROP color for the same money . . . combine to give you the reproduction and economy you want.*

With the *New* Dayco Tru-Set Roller, use the same plates, ink and paper as always. You'll be amazed at the quality reproduction of halftones, the coverage given solids and type. And with Dayco Color Separators rounding out the combination you'll give your presses more ROP Color flexibility . . . at lower cost without roller cutting.

Hardness of the *New* Dayco Tru-Set Roller is just what *you* need on *your* press. Original grinding, and regrinding too, gives the surface a velvet smooth finish for unmatched ink transfer. And high tensile strength holds that finish . . . reduces marking and column scoring for longer service.

Highly important, the *New* Dayco Tru-Set Roller does not swell excessively — just enough to give grinding stock. In addition, they're fire resistant for extra safety in your pressroom.

So call your Dayco Representative right now for a set of these *New* Dayco Tru-Set Rollers. Either you're completely satisfied or we'll make good. And when you're buying new equipment specify the *New* Dayco Tru-Set Roller to get best results.

For further information write Dayton Rubber Company, Dayco Division, Dayton 1, Ohio.

Dayton Rubber

THE DAYTON RUBBER COMPANY, Dayton 1, Ohio • 1486 Lakewood Ave., S.E. Atlanta, Ga. West Coast Distributor, Tillicum Rubber Co., Lacey, Wash.

Dayco Rollers . . . for Offset, Letterpress, Newspaper, Corrugated Boxboard, Gravure, Flexography, Coating, Graining, Steel Mills. Dayco Offset Blankets. Dayco Fountain Dividers. Dayco Color Separators.

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For More Information Circle 41 on Reader Service Card

PRESENTING... THE

a New Method of producin

The new WOOD AUTOPONY streamlines the entire horizontal operation of plate making. As the name implies, all phases of the operation from pouring to cooling are streamlined. As a result, the AUTOPONY casts, shaves and cools at the rate of 2½ plates per minute without the necessity of manual lifting. For tensionplate lockup, plates may likewise be moved into the Automiller placed at end of AUTOPONY. All safety features incorporated in our other Pony Autoplates have been retained in this machine with improvements that assure "Better Stereotype Plates"—FASTER!

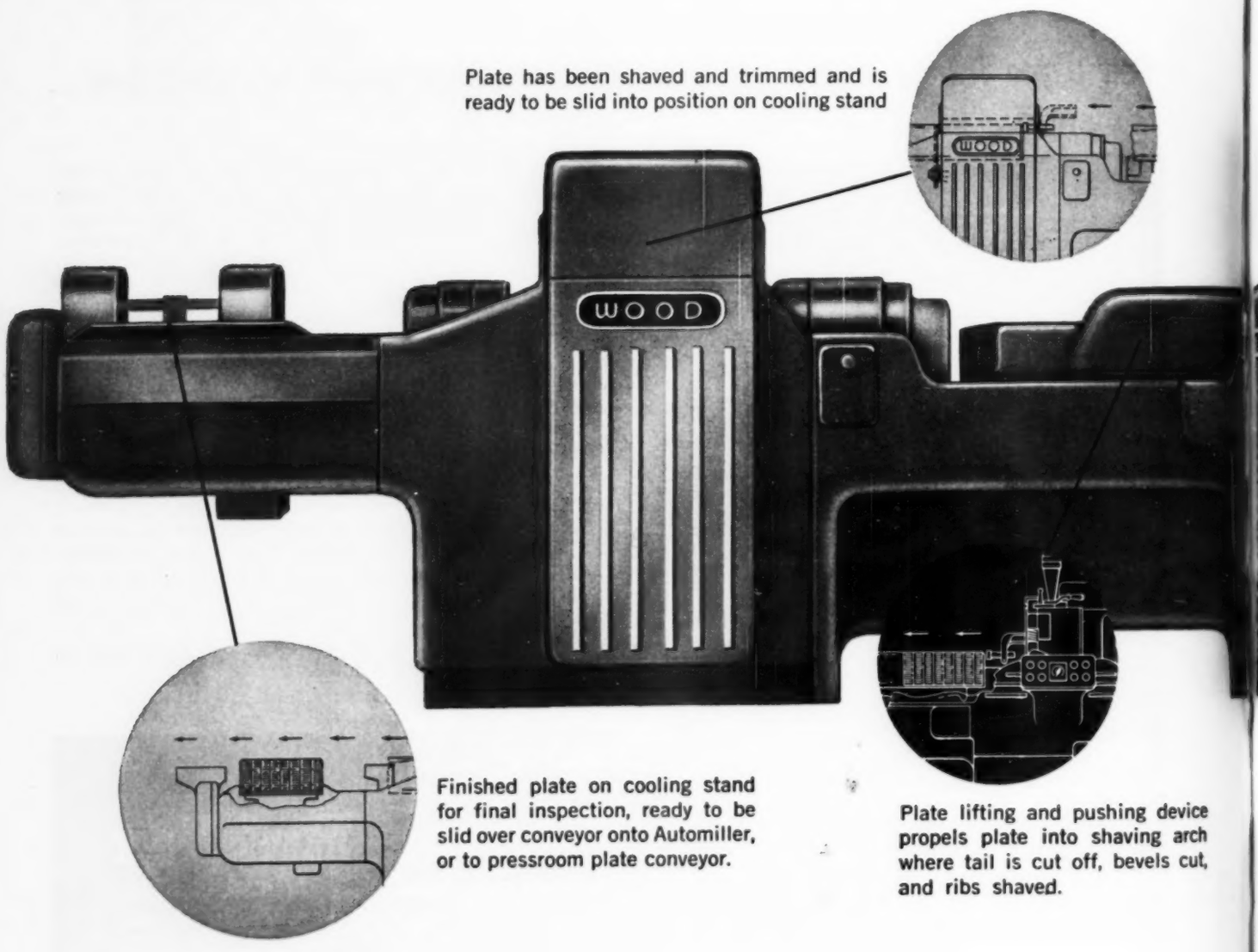


Plate has been shaved and trimmed and is ready to be slid into position on cooling stand

Finished plate on cooling stand for final inspection, ready to be slid over conveyor onto Automiller, or to pressroom plate conveyor.

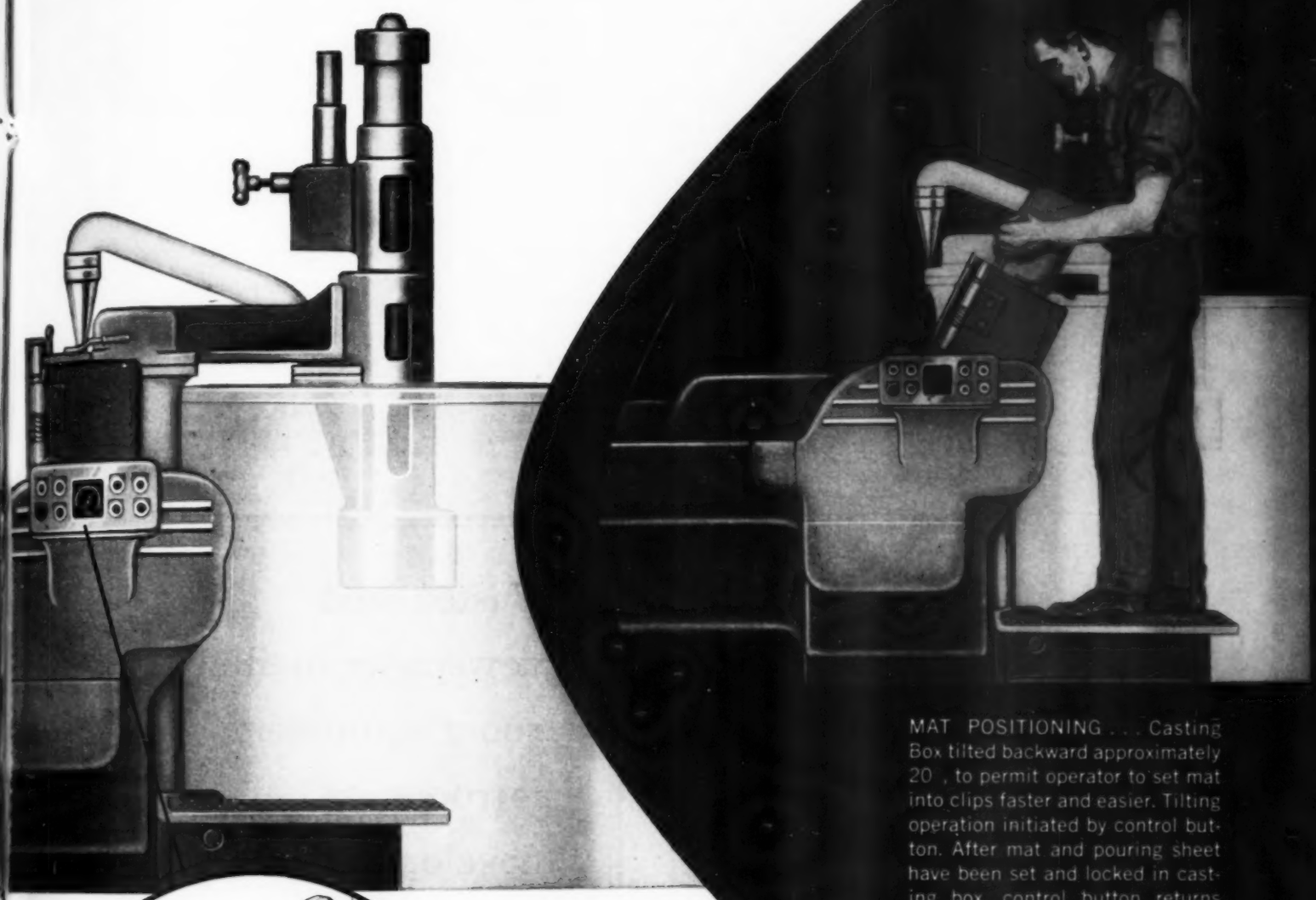
Plate lifting and pushing device propels plate into shaving arch where tail is cut off, bevels cut, and ribs shaved.

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY • Executive & Sales Office: 501 Fifth Avenue, New York 17, N.Y.

WOOD AUTOPONY

plates AUTOMATICALLY!



MAT POSITIONING . . . Casting Box tilted backward approximately 20 , to permit operator to set mat into clips faster and easier. Tilting operation initiated by control button. After mat and pouring sheet have been set and locked in casting box, control button returns box to vertical position, ready to start casting cycle.

CASTING CYCLE . . . When starting button is pushed, it engages an interlock making impossible the inadvertent operation of casting box tilting mechanism. Starting button also activates automatic cycle for casting, shaving and cooling of any number of plates desired from mat set in casting box. Machine shuts off automatically when correct number of plates, as controlled by a timer, have been cast.

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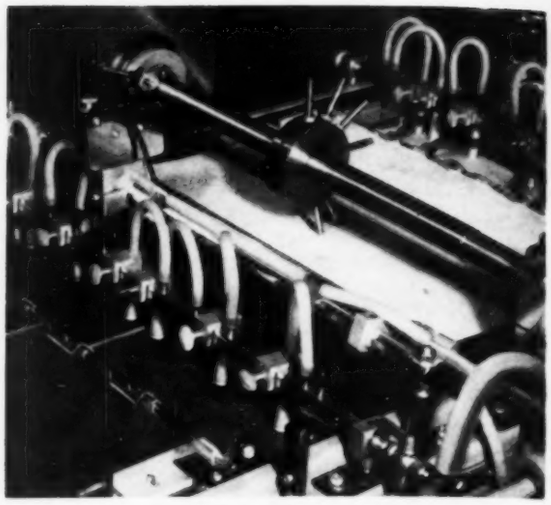
Equipment & Supplies

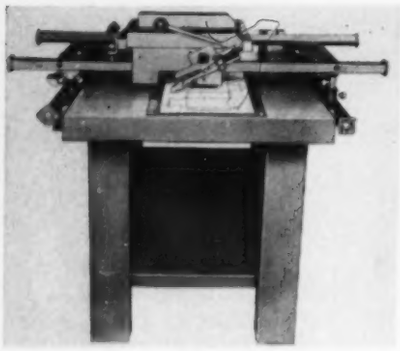
If you wish additional information concerning equipment, supplies, and/or technical literature, please make your request on *Printing Equipment Engineer's* Reader Service Card found in this issue.

Didde-Glaser Statement Gluer—A statement gluer which is attached to any Speed-Klect Collator and permits vertical gluing on the sheet with any desired pattern has been introduced by Didde-Glaser, Inc. for printers in office form production. The vertical gluing attachment operates on a rotary principle and applies glue vertically to the stub or top edge of the sheet. Glue wheel is adjustable across a 17 in. width. Glue is deposited on the sheet by a series of adjustable tips. Attachment can be used for inside gluing of carbon to statements, either stub or fold-over variety; gluing of saddle-back carbon to a statement or undersized sheet of carbon to a sheet or ledger sheet; and carbon sheet gluing for bookkeeping machine statements. For further information, please circle No. 252 on the Reader Service Card.



Cutting Machine and Knife

The Bar-Plate Mfg. Co. recently announced its machine and score



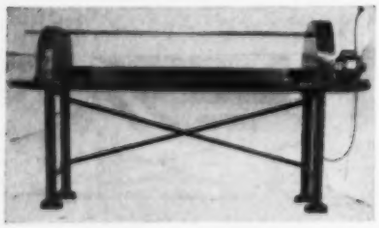
cutting knife for cutting scores in box creasing makeready. Thickness of the carbon steel knife blade is 0.025 in. and the blade bevel is one sided. Straight portion of the blade is on the outside and rides against the straightedge. The feeler gauge stock ranges from 0.005 in. to 0.025 in. Blades are held by one fastening screw. All blades are reversible. The score cutting machine is designed for platen or reciprocal head plates for cutting scores semi-automatically. The machine, for plates from 12 in. by 18 in. to 60 in. by 80 in., is constructed with two traverses operating on roller bearings. The traverse is for direction and pressure. Machine comes in four sizes: 20 in. by 30 in., 32 in. by 44 in., 42 in. by 70 in., and 60 in. by 80 in. The cutting and creasing plate is prepared in its usual manner and placed in position on the score cutting machine. For cutting, first one carriage is locked and the other carriage is moved in the direction of the line. This is re-

(Continued on Page 28)

Capco

Multi-Core Stripper

A Machine *Engineered* To Strip Cores



- Increase production as much as 400%.
- No skilled help needed—anyone can operate.
- No maintenance cost—equipped with oil-less bearings.
- Strips up to five cores simultaneously.
- No installation charge—simply plug in electrical outlet.

Get Further Particulars From

CAPITAL TOOL & MANUFACTURING CO.

5000 Calvert Road • College Park, Md.

Phone: Union 4-7677

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Customized newspaper mailing room equipment introducing new developments for any mailing room in the World

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Name and Title_____

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JUNE '57

WANT MORE FACTS?

USE THE CARD

IT'S EFFICIENT, FAST AND EASY

frankly speaking...

you get 53% more LIFT when you use COLOR

Ads in color attract 53% more returns, according to the Newspaper Advertising Executives Association. (They analyzed *5 million* inquiries from 3,500 ads to establish this.) That's why 819 dailies now offer color – 358 of these have *full* color.*

Color draws attention to everything – fashion – cars – food – anything. R.O.P. color adds the same punch to editorial content.

Ride the color "lift" . . . buy the finest equipment there is . . . and sell the advantages of color to your readers and advertisers. Hoe has the best equipment and experience you can't match anywhere. That's why the superiority of the Hoe Color Convertible press is still unchallenged. It will pay you to get in touch with Hoe.

R. HOE & CO. INC.

910 East 138th Street, New York 54, N.Y.
BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO

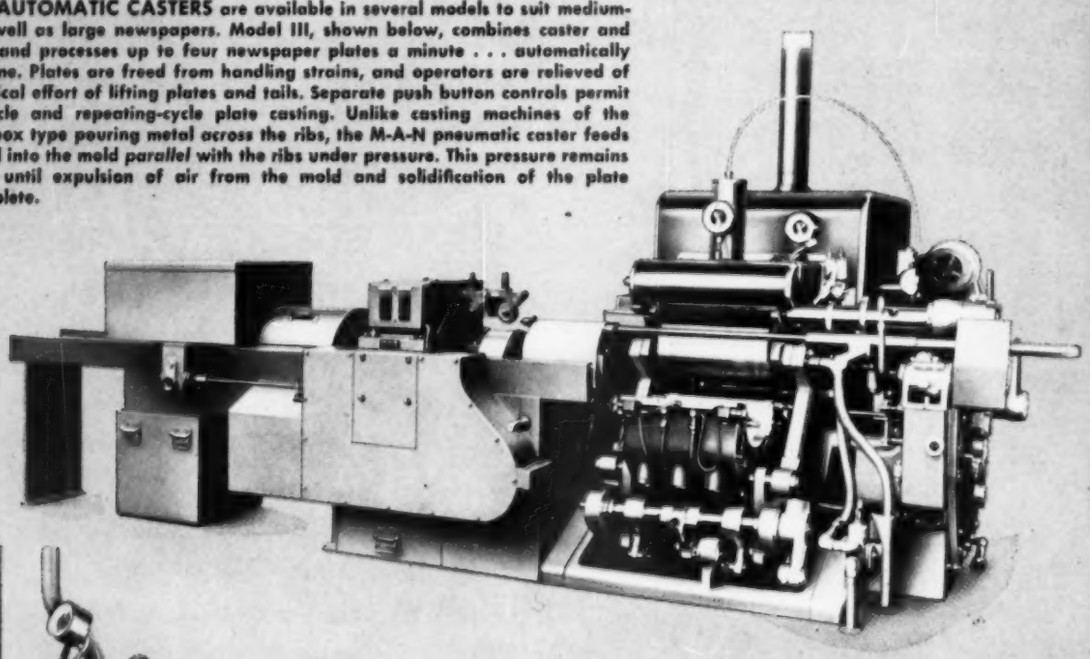
*Source: Editor & Publisher

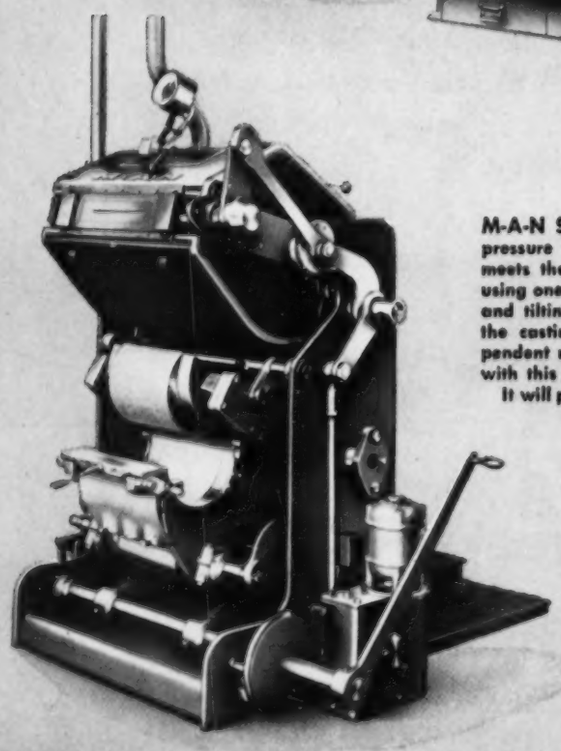
NEW M-A-N PLATE CASTING MACHINES ESTABLISH A NEW STANDARD...

for both quality, performance and efficiency in plate making

M-A-N Automatic and Semi-Automatic Casters—operating on the pressure casting principle—produce plates of closer grain, consistently good printing face with higher wearing quality. Plate thickness, curvature and width are controlled with greater accuracy. M-A-N casters produce *tailless* plates—at a casting temperature approximately 50 deg. F. lower than is usual with other casters—substantially reducing metal turnover as well as fuel and metal costs. An exclusive system of color mat registration in the casting box simplifies operations and speeds up production.

M-A-N AUTOMATIC CASTERS are available in several models to suit medium-size as well as large newspapers. Model III, shown below, combines caster and finisher, and processes up to four newspaper plates a minute . . . automatically and in line. Plates are freed from handling strains, and operators are relieved of the physical effort of lifting plates and tails. Separate push button controls permit single-cycle and repeating-cycle plate casting. Unlike casting machines of the vertical box type pouring metal across the ribs, the M-A-N pneumatic caster feeds the metal into the mold *parallel* with the ribs under pressure. This pressure remains effective until expulsion of air from the mold and solidification of the plate are complete.





M-A-N SEMI-AUTOMATIC CASTERS, incorporate the same principle of pressure casting that has made M-A-N famous the world over. It ideally meets the requirements of smaller newspapers and of larger newspapers using one machine for R.O.P. color plate production. It combines casting box and tilting metal pot in one compact, self-contained unit. When required, the casting machine pot can be pump-fed automatically from an independent melting furnace. A rate of up to two plates per minute is possible with this machine.

It will pay you to get in touch with Hoe. For more information, please write:

R. HOE & CO., INC.

910 E. 138th Street, New York 54, N. Y.

BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO

FACTS

NOT Wishful Thinking!!

When it comes to newspaper press installation MANHATTAN leads the field.

These are our current projects—a total of **331** press units being handled, installed and erected by us!

While others sometimes claim our virtues, no one matches us in either performance, manpower, modern tools and equipment, "know-how," experience, or supervisory skill.

We don't live in the glories of the past, as do some, but point with justifiable pride to our current accomplishments.

Certainly, there must be a reason why publishers throughout the world constantly rely on MANHATTAN to perform their press installations and plant moves.

To experience similar satisfaction, discuss your next project with us. No obligation of course.

MANHATTAN

RIGGING & TRUCKING CO., INC.
INDUSTRIAL CONTRACTING CO., INC.

ROBERT I. MARCUS, *President*

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For More Information Circle 90 on Reader Service Card

An air of confidence

—pervades both plant and office wherever papers are produced with the aid of Certified Dry Mats—confidence that publication will not be delayed by mat troubles—confidence that reproduction will be a credit to the publication.

Certified Mats mold quickly, deeply, with faithfulness to type and plate. They scorch quickly and yield casts of dependable quality. Certified users rarely talk about mats—but take for granted the main advantages that Certifieds yield.

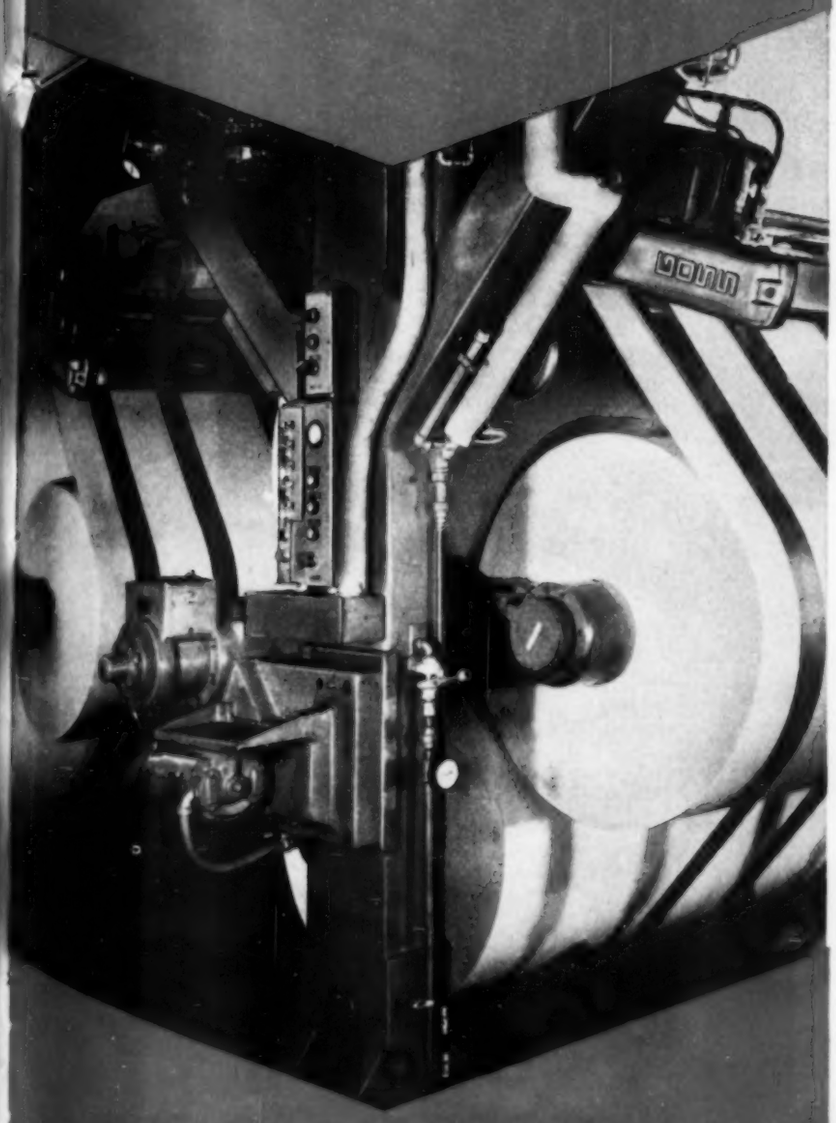
CERTIFIED DRY MAT CORPORATION

555 Fifth Avenue Dept. M New York 20, N. Y.

Certified DRY MATS

For More Information Circle 29 on Reader Service Card

Over 100 units tell the story of the.... GOSS PASTER PILOT



No Buttons to Push...
Just Set it...
And Forget it!

In the short time since the introduction of the Goss Paster Pilot over 100 Units have been installed or ordered. That tells the story of the enthusiastic acceptance by mechanical executives of the *first fully automatic paster system.*

The advantages are obvious. When the Reel-Tension-Paster is equipped with the Paster Pilot the operator has only to prepare the new roll with glue and paster tabs.

The Goss Paster Pilot does the rest. The new roll is indexed to pasting position, the brush and web severing carriage is lowered, the pre-drive takes over and the paster is completed—all automatically—at speeds up to 60,000 papers per hour.

The Paster Pilot means higher production, fewer human errors and increased efficiency. It conserves newsprint by "sensing" press speeds and automatically pre-setting the time for the proper pasting cycle, resulting in uniform cores with 3/16" or less of paper on the core.

Paster Pilots are being installed both on new presses and to increase the efficiency of many of the more than 500 Goss Reels-Tensions-Pasters now in operation.

THE GOSS PRINTING PRESS COMPANY
Division of Miehle-Goss-Dexter, Inc.
5601 WEST 31st STREET, CHICAGO 50, ILL.

For More Information Circle 58 on Reader Service Card

Full speed splicing cuts time. Hoe Reel, Tension and Paster offers push-button splicing at all press speeds, for a wide range of roll diameters.

Four compartment ink pump gives color flexibility. Hoe's exclusive inking system makes it easy to print full color, full black, or a combination of both.

Cleaner, more uniform ink flow. Uniform, clean ink flow is assured because the proper amount of ink is conveyed directly to the inking cylinder.

Time-saving roller socket adjustment. Hoe roller sockets provide quick and easy positioning plus maximum rigidity to assure quality printing.

Here are just a few of the advanced features to be found on Hoe presses. They are all engineered for one purpose: to contribute to better, more profitable printing. For the details on any of these . . . or for an analysis of your own printing problem . . . it will pay you to get in touch with Hoe.

Superior new drive and clutch. Operator can reverse either right or left-hand couples from one position from one side of the unit, with just one tool.

Quick, simple underside lock-up. One movement of one lever quickly and easily locks or unlocks printing plates . . . plates hold register better, can't "hammer".

Easier fold control. Hoe's push-button second fold control always permits adjustment for evenly folded products while the press is in motion.

Convenient color control. Four ink pump compartments make it easy to print from one to four different colors across the web. Reduced make-ready time is a natural.

R. HOE & CO., INC.

910 East 138th Street, New York 54, N. Y.

BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO

For More Information Circle 174 on Reader Service Card

Guess I'd better switch to
MERCURY Rollers and Blankets

When you have a really tough make-ready problem—tricky register . . . subtle tone values . . . combinations of delicate tints and massive solids in the same form . . . or maybe a series of multi-color impressions that require great inking accuracy . . . *that's when you'll be glad you have Mercury rollers and blankets on your presses.* Just give Mercury products a trial and watch those tough jobs come easy.

RAPID ROLLER COMPANY

Main Office and Factory:

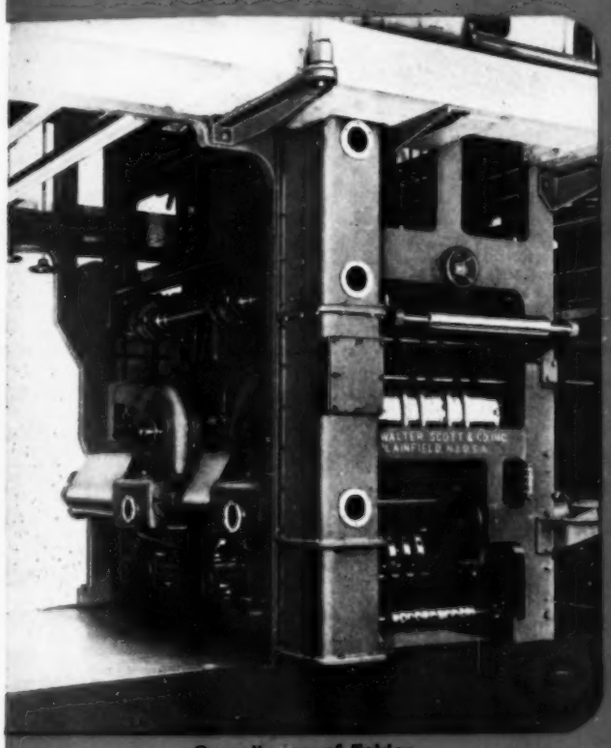
FEDERAL AT 26TH STREET • CHICAGO 16, ILLINOIS

Eastern Sales Office and Warehouse: 218-224 Elizabeth Avenue • Newark 8, N. J.

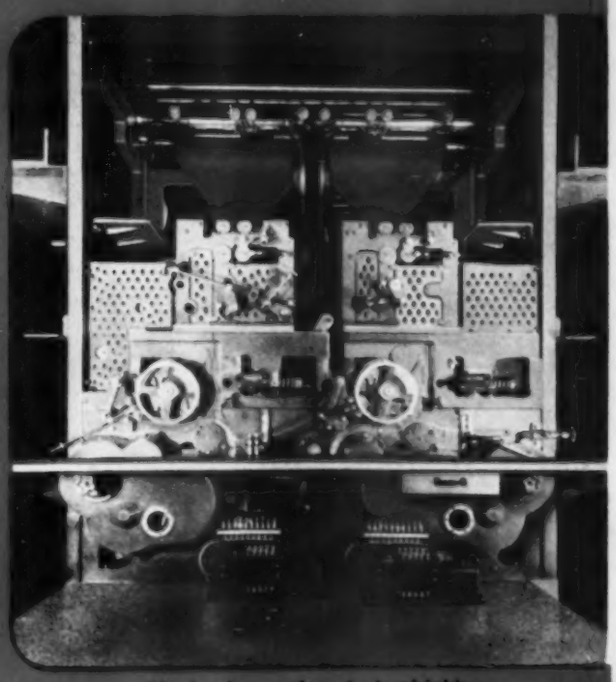
For More Information Circle 117 on Reader Service Card

The most widely acclaimed folder on the market.

SCOTT.... **128 page 3:2 RATIO FOLDER WITH *"folded edge forward"***



Overall view of Folder



Mechanism and controls of folder

A combination of precision, accuracy and S-P-E-E-D! Tested in newspaper plants from coast to coast over a span of more than a quarter century. See it in operation, right in your own city or within convenient reach.

Forged alloy steel gears.

•

Automatic lubrication by power pumps

•

Folding cylinders, one piece alloy steel

•

Automatic clutch built into main drive shaft . . . functions automatically to prevent paper chokes by disengaging motor drive from folding and cutting mechanism bringing press to a red button stop.

•

Folding operations halted although nipping rolls continue to turn until all units stop should overload occur.

Wood

WALTER SCOTT & CO.

DIVISION OF WOOD NEWSPAPER MACHINERY CORPORATION Plant: Plainfield, N. J.

EXECUTIVE & SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17, NEW YORK

For More Information Circle 24 on Reader Service Card

Print direct for sharper halftone reproduction

Thousands of newspapers are printing direct from original halftone engravings produced on Fairchild Scan-A-Gravers — thus eliminating losses of detail that result from matting and stereotyping.

Fairchild engravings are flexible and easy to use. They mount directly onto the stereo. The resultant reproduction is sharper and cleaner, and approaches the quality of the original photograph. You can be proud of this quality of reproduction and of the reaction it gets among readers.

Fairchild representatives will be glad to show you examples of direct printing and demonstrate how to get better quality with engravings made on Scan-A-Plates®.

• You'll be interested in the flexibility and ease with which these modern, electronically-produced engravings can be used right in your own shop. For complete information write Fairchild Graphic Equipment, Inc., 88-06 Van Wyck Expressway, Jamaica, New York, Dept. **100-32E1**

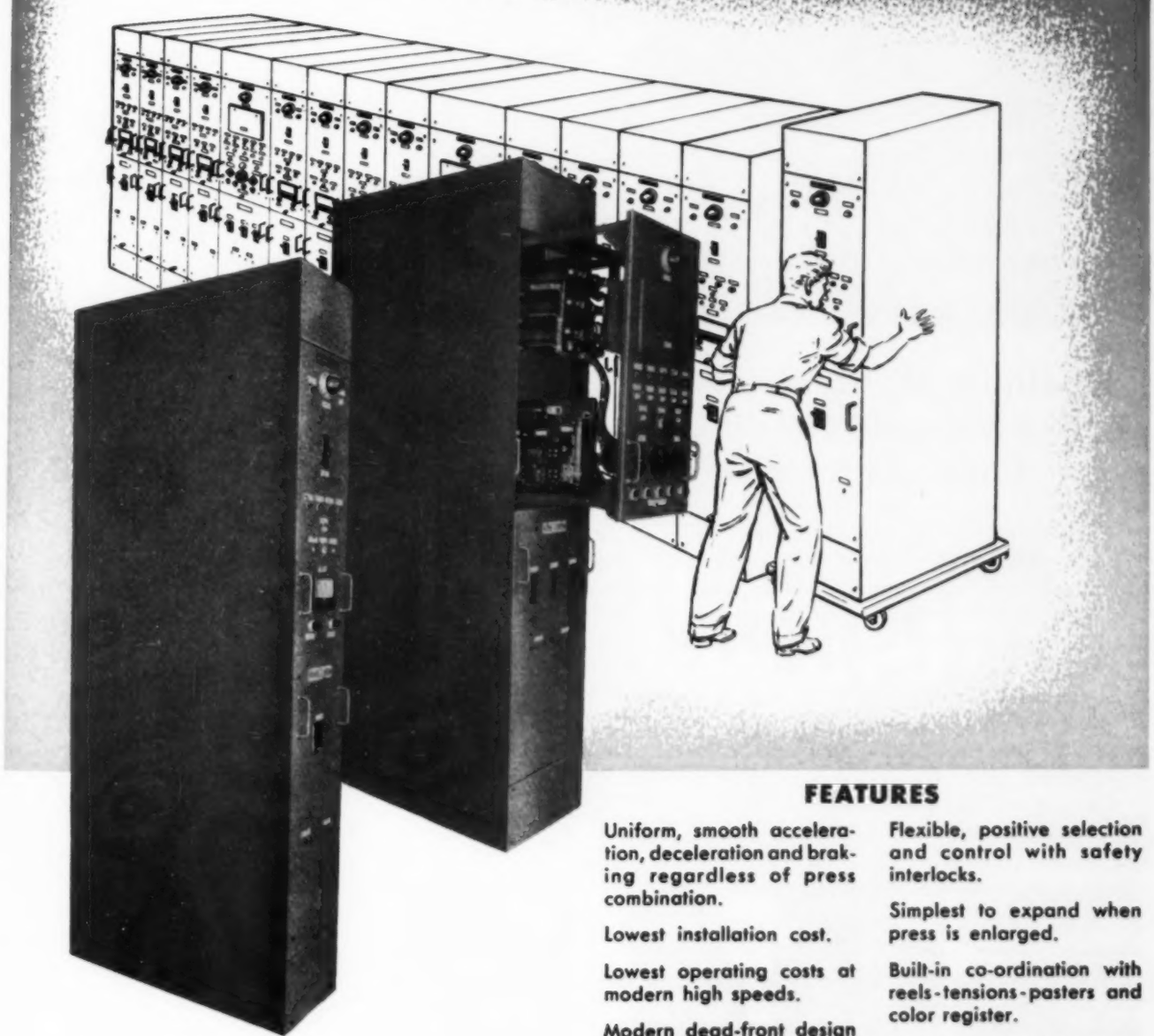
FAIRCHILD GRAPHIC EQUIPMENT, INC.

SCAN-A-GRAVER® • SCAN-A-SIZER
Electronic Engraving Machines

District Offices: Walpole, Mass.; Atlanta, Ga.; Chicago, Ill.; Los Angeles, Cal.; Toronto, Ont.

For More Information Circle 48 on Reader Service Card

Cline-Westinghouse FLEXITROL ... a new concept in AC Unit-Type newspaper press control



FEATURES

Uniform, smooth acceleration, deceleration and braking regardless of press combination.

Lowest installation cost.

Lowest operating costs at modern high speeds.

Modern dead-front design with maximum safety features.

Finger-tip selection of press units.

Flexible, positive selection and control with safety interlocks.

Simplest to expand when press is enlarged.

Built-in co-ordination with reels-tensions-pasters and color register.

Interchangeable plug-in assemblies throughout.

Minimum Control Room space.

***FLEXITROL** has been specified by:*

NEW YORK NEWS • CHICAGO SUN-TIMES
ST. LOUIS GLOBE-DEMOCRAT • VANCOUVER SUN
PALM BEACH POST-TIMES
PHOENIX REPUBLIC AND GAZETTE
SOUTH BEND TRIBUNE • ROCK ISLAND ARGUS
SAN BERNADINO SUN TELEGRAM

CLINE ELECTRIC

CLINE ELECTRIC MANUFACTURING COMPANY • 3405 WEST 47th STREET, CHICAGO 32, ILLINOIS • LOS ANGELES 17, CALIF. • NEW YORK 17, N.Y.

For More Information Circle 35 on Reader Service Card

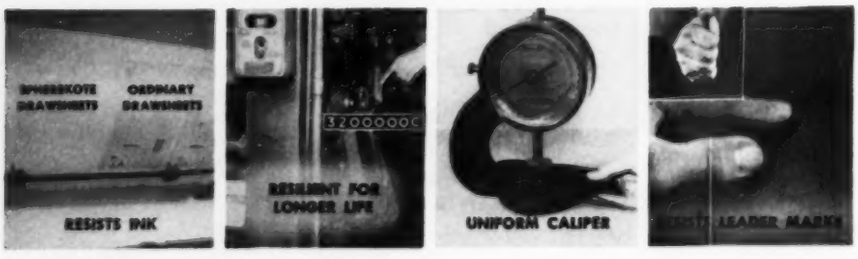
Glass armored drawsheets reduce bolstering!

Resilient Spherekote Blankets and Drawsheets Stand Up Longer— Give Uniform Impression.

Longer press runs, uniform ink coverage, longer life are proved benefits of SPHEREKOTE Drawsheets and Blankets! Bolstering is reduced because millions of glass beads are fused to a tough, resilient rubber base that "recovers"—refuses to be "beat down", even after weeks on the press!

The glass armored surface resists leader marks too, provides a perfect surface for clean, sharp color and black and white. First impression offset is substantially reduced by using SPHEREKOTE Drawsheets which have an amazing resistance to ink!

For consistent high quality, specify SPHEREKOTE Drawsheets and Blankets! For a personal demonstration or more information write: Minnesota Mining and Manufacturing Co., Dept. FM-67, St. Paul 6, Minnesota.



REG. U.S. PAT. OFF.
SPHEREKOTE BRAND
DRAWSHEETS AND BLANKETS
PRODUCT OF 3M RESEARCH

Made in U.S.A. by Minnesota Mining and Manufacturing Co., St. Paul 6, Minn. General Export: 99 Park Ave., New York 16, N.Y. In Canada: P.O. Box 757, London, Ontario.

For More Information Circle 95 on Reader Service Card

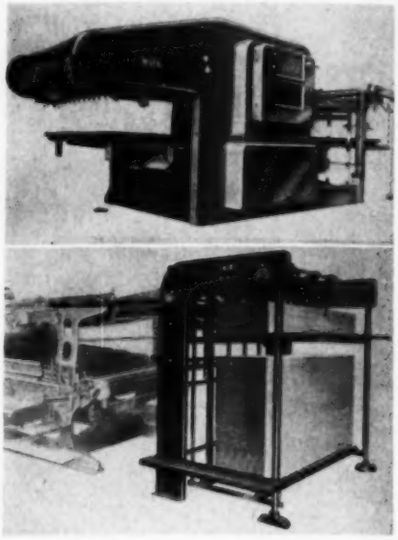
Equipment and Supplies

(Continued from Page 16)

peated for rules running in length and width. For further information, please circle No. 271 on the Reader Service Card.

Cardboard Stream Feeder and Cutting, Creasing and Embossing Press

Edward Walter, president of Printing Machinery Maintenance, Inc., announced that his firm has been named sole U.S. distributor of the Mabeg



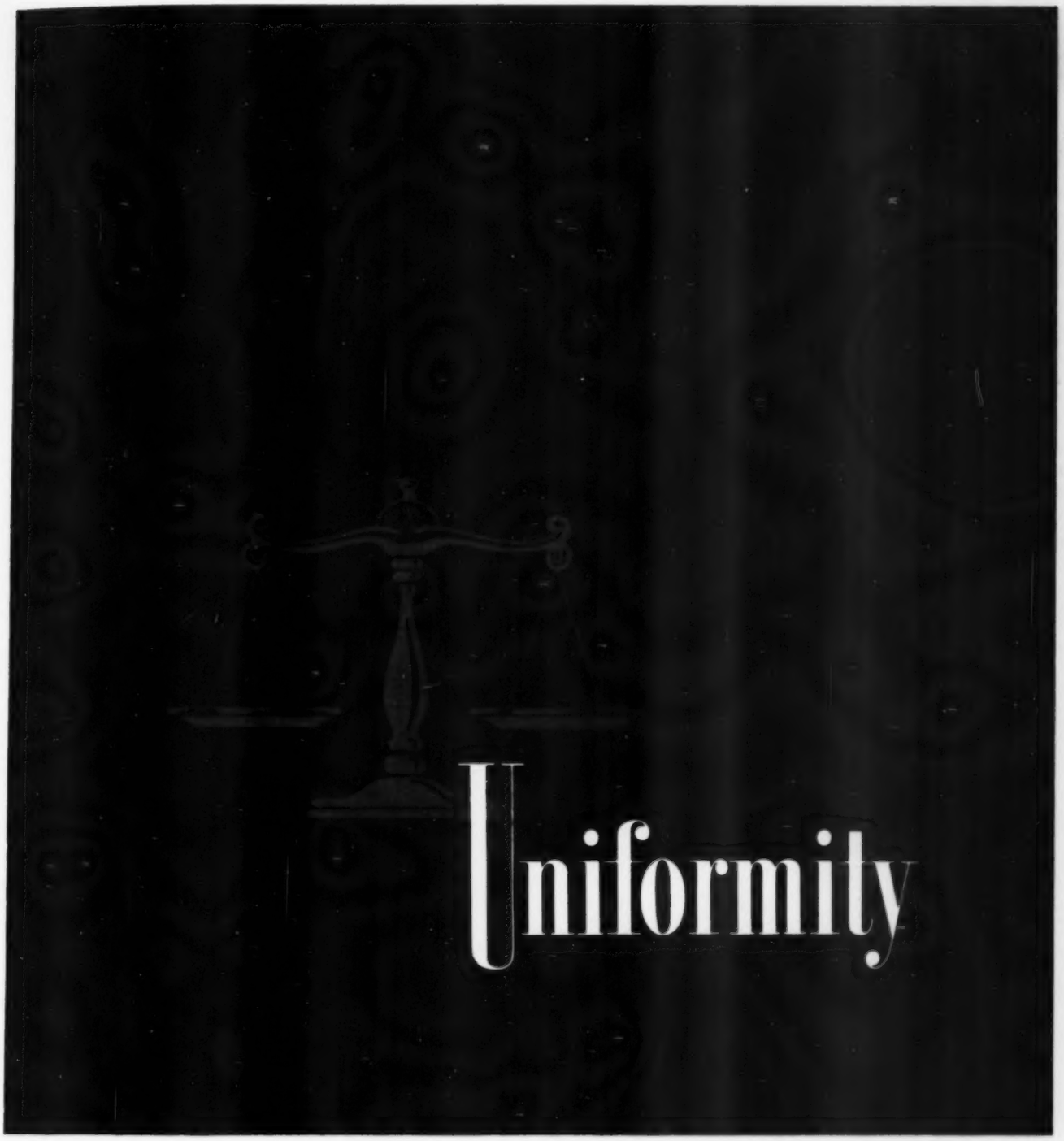
Upper illustration is the Wupa cutting, creasing and embossing press. Lower illustration is the Mabeg feeder for the folding box industry. Both machines are distributed by Printing Machinery Maintenance, Inc.

cardboard stream feeder and the Wupa automatic cutting, creasing and embossing press. These machines are made in West Germany. The Mabeg feeder was designed for the folding box industry and features a reloading device which is said to allow 12 in. of stock to feed through while a new load is put into the feeder. The Wupa press is an automatic cutting, creasing and embossing press which is said to take sheets sized 22 in. by 27½ in. to 36¼ in. by 52 in. Machine can cut and crease any weight of boxboard and corrugated up to 5/16 in. thick, at speeds up to 4000 per hr. states sponsor. For further information, please circle No. 258 on the Reader Service Card.

Plastic Skin Protective Coating

A skin protective coating consisting of a plastic dispersed in gel form in a water base was announced by Milburn Company. When applied to the skin, the water base evaporates to leave a continuous, elastic, plasticized film. Ply No. 9 Gel is said to protect against skin irritation or dermatitis from printer's ink, greases, plastic and rubber adhesives and glues, metallic dusts and paper dusts. The coating is attacked only by acetone and methyl and ethyl alcohols

(*Continued on Page* 36)



HERRICK Inks

WILLIAM C. HERRICK INK CO.
Incorporated
EAST RUTHERFORD, N. J.

QUALITY INKS FOR PRINTERS, LITHOGRAPHERS AND NEWSPAPERS

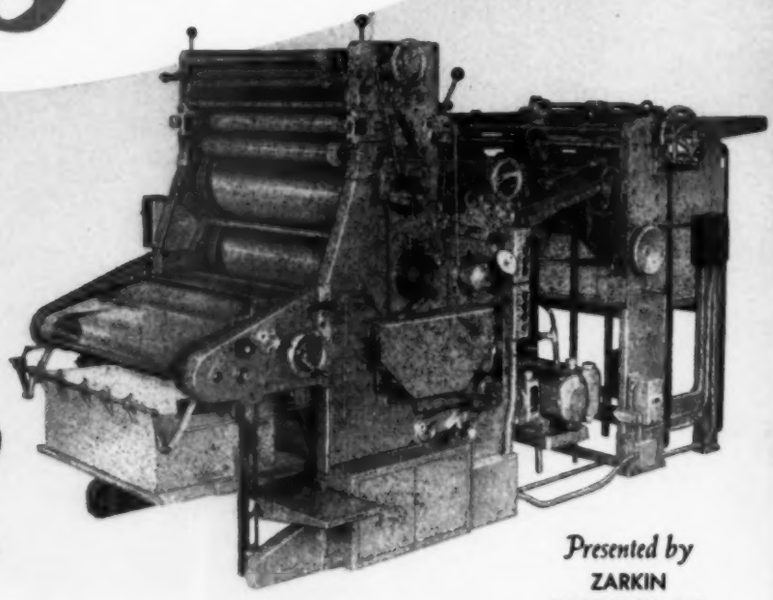
For More Information Circle 67 on Reader Service Card

NOW TAKE THAT BIG STEP!

. . . OUT OF
SMALL PRESS COMPETITION
INTO THE
BIG PRESS CLASS
WITH THE

ROYAL ZENITH 29

SINGLE COLOR
Offset Press
(Sheet size 23" x 30")



Presented by
ZARKIN
MACHINE CO., INC.
Est. 1928

How many jobs do you turn down for want of a larger press? Let the 23" x 30" sheet size of the ROYAL ZENITH 29 Offset Press lift you right out of the highly competitive smaller press class with BIG PRESS PROFITS!

This is the press that has everything:

- Surprisingly low initial cost
- Precision register
- Minimum makeready and lightning fast getaway!
- Sturdy "Rock of Gibraltar" construction
- Top quality work
- Speed up to 40,000 impressions per shift
- Simple, economical operation
- TREMENDOUS PROFIT POTENTIAL!

Scores of installations all over the U. S.—hundreds throughout the world—attest to the Royal Zenith's popularity. Why not get all the facts on this big money-maker for *your* shop?

For full details and name of distributor in your area — call, write or wire Dept. PEE

Factory trained mechanics for service on parts and maintenance are on call anywhere in the U.S. 24 hours a day!

Royal Zenith Corporation

WORLD'S FINEST LITHOGRAPHIC PRESSES
34-20 ELEVENTH STREET · LONG ISLAND CITY 6, N. Y. · AStoria 4-0808

For More Information Circle 122 on Reader Service Card

"Safest stuff we ever walked on."

He's talking about A.W. ALGRIP, the world's only abrasive rolled steel floor plate . . . the safety floor plate that provides super-safe footing around presses and under the *most hazardous* slipping conditions.

Dozens of leading printing plants nationwide have licked slipping and skidding hazards caused by ink mist and oil by installing ALGRIP.

This exceptional safety plate is made by a patented process during which hard grinding-wheel type abrasive particles are rolled—not coated—to a controlled depth as an integral part of tough steel plate. Usage merely exposes more abrasive surface.

Make a test installation in your most dangerous slipping area. Watch ALGRIP pay for itself as accident and insurance rates go down. ALGRIP fabricates easily and requires no maintenance.

ALGRIP ABRASIVE ROLLED STEEL FLOOR PLATE

ALGRIP—*approved for safety by Underwriters' Laboratories*

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.

Please send me A. W. ALGRIP Booklet AL-830

Name_____

Title_____

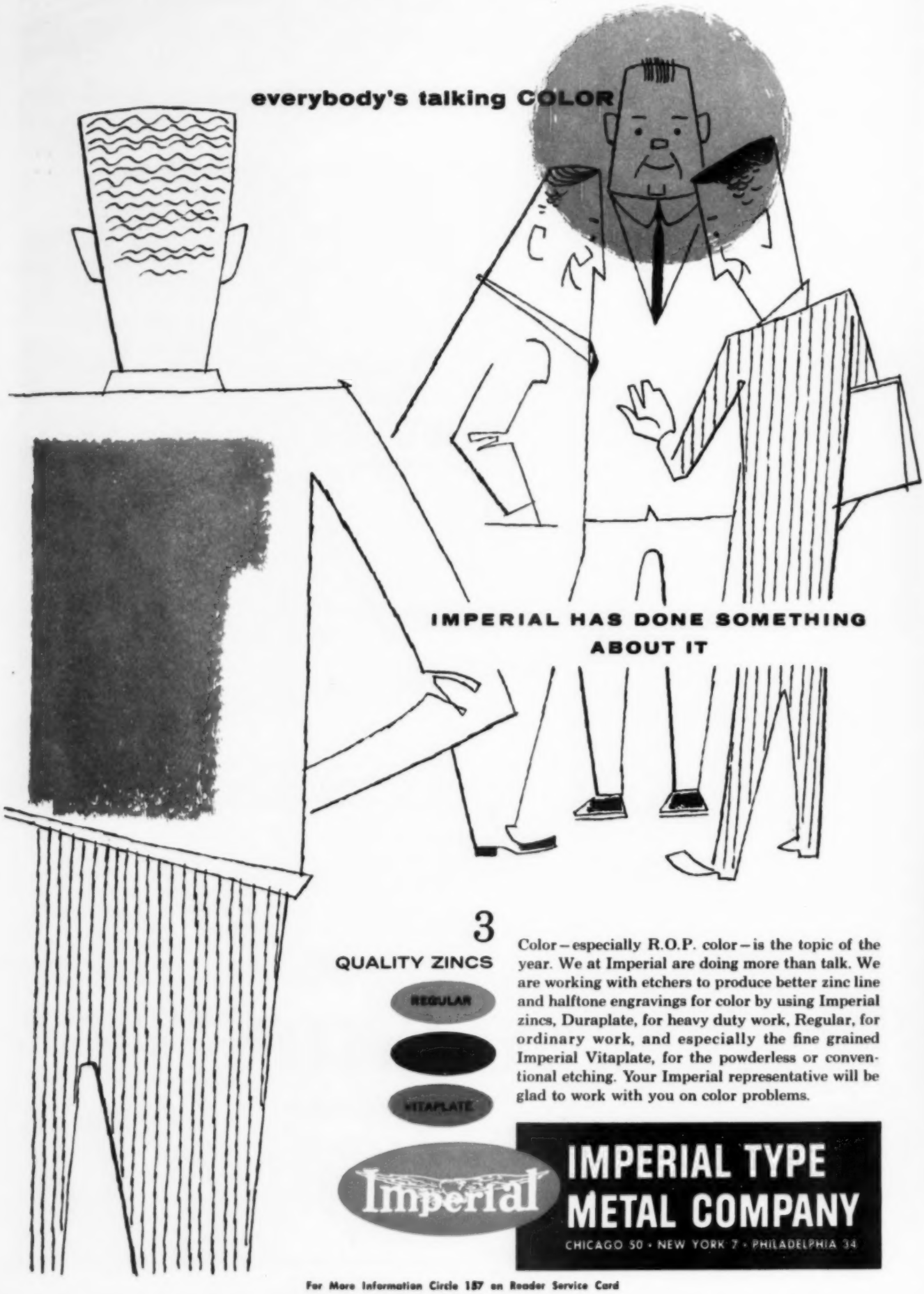
Company_____

Address_____

City_____ Zone_____ State_____

OTHER PRODUCTS:
A. W. SUPER-DIAMOND rolled steel floor plate—Plates—Hot and cold rolled sheet and strip—(Alloy and Special Grades)

For More Information Circle 4 on Reader Service Card



3
QUALITY ZINCS

REGULAR

VITAPLATE

Color – especially R.O.P. color – is the topic of the year. We at Imperial are doing more than talk. We are working with etchers to produce better zinc line and halftone engravings for color by using Imperial zincs, Duraplate, for heavy duty work, Regular, for ordinary work, and especially the fine grained Imperial Vitaplate, for the powderless or conventional etching. Your Imperial representative will be glad to work with you on color problems.

Imperial

IMPERIAL TYPE METAL COMPANY

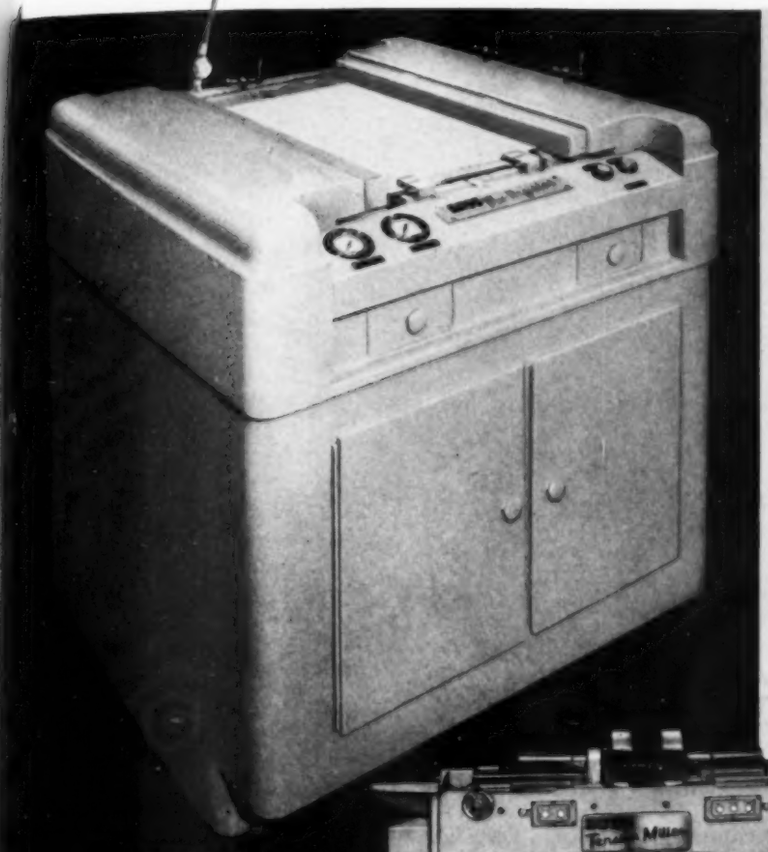
CHICAGO 50 • NEW YORK 7 • PHILADELPHIA 34

For More Information Circle 157 on Reader Service Card

Precision Plates for ROP Color

with the GOSS COLOR LINE...

The increasing use of ROP color in newspapers makes more essential than ever the use of precision stereotypes in accurate register to reduce to a minimum downtime in the pressroom. The three machines of the Goss Color Line—the Tru-Register, the Plate Perfector and the Tension Miller—are engineered to control positively all the steps from the stereo mat to final register of color plates on the press.



THE TRU-REGISTER

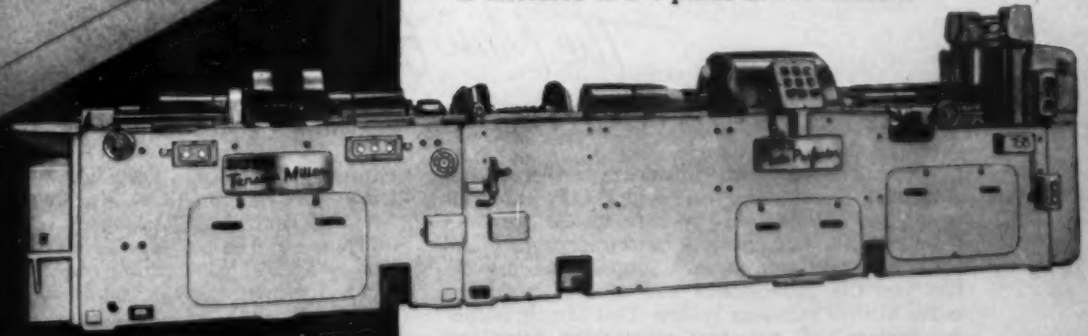


PLATE PERFECTOR AND TENSION MILLER—
can be operated integrally or separately

Write for complete information
on the Goss Color Line

TRU-REGISTER

The Goss Tru-Register—latest addition to the Color Line—provides an accurately controlled means of visually registering each successive matrix of a color set to selected image areas of the mat of the key plate. When in register each mat is punched with notches which positively locate its center line in the casting box. This assures register and minimizes the problems of positioning mats in the box for multiple casts.

PLATE PERFECTOR

The Goss Plate Perfector is an automatic machine for casting, cooling and finishing precision black and color stereotypes. With the Automatic Mat Setter production is increased to five plates in two minutes.

TENSION MILLER

The Goss Tension Miller provides for final color register directly from the plate image prior to the accurate machining of the tension lockup pockets in the stereotype.

THE GOSS PRINTING PRESS COMPANY
Division of Miehle-Goss-Dexter, Incorporated
5601 WEST 31ST STREET, CHICAGO 50, ILL.

For More Information Circle 175 on Reader Service Card

the Man from Morrill

offers you complete news ink service

If your pressroom requirements are ANPA-AAAA Approved Standard Process and R.O.P. colors or specially matched inks, be sure to see the Man from Morrill. For not only has he laboratory and pressroom research to back him up, he also offers you the convenience and economy inherent in the Morrill Blending System. This Morrill Blending System will give you exactly the color you want at the time you want it and in the quantity you need.

And he'll also give you the latest information on new developments; and helpful material such as an entire series of R.O.P. color books, hints on ink storage and handling, tank brochures, and Morrill's Metered Tank Truck Delivery.

These services can mean better pressroom operation and printing, whether you use drums or tank truck deliveries of news black ink, comic color or R.O.P. color ink.

The technically trained Morrill man is backed by 117 years of ink formulation experience . . . in an organization that provides uniform quality on a coast-to-coast basis. Why not talk to the Man from Morrill about complete news ink service today?

Geo. H. Morrill Company

A DIVISION OF

Sun Chemical Corporation

10th Street & 44th Avenue, Long Island City 1, N. Y.

DIVISIONS OF SUN CHEMICAL CORPORATION

HORN (paints, maintenance and construction materials, industrial coatings) • **WARWICK** (textile and industrial chemicals) • **WARWICK WAX** (refiners of specialty waxes) • **RUTHERFORD** (lithographic equipment) • **SUN SUPPLY** (lithographic supplies) • **GENERAL PRINTING INK** (Sigmund Ullman • Fuchs & Lang • Eagle • American • Kelly • Chemical Color & Supply Inks) • **MORRILL** (news inks) • **ELECTRO-CHEMICAL PRODUCTS** (coatings & plastics) • **PIGMENTS DIVISION** (pigments for paints, plastics, printing inks of all kinds) • **OVERSEAS DIVISION** (export) • **A. C. HORN COMPANY, LIMITED** (Canada) • **GENERAL PRINTING INK CORPORATION OF CANADA, LIMITED** • **FUCHS & LANG de MEXICO, S. A. de C. V.**

For More Information Circle 100 on Reader Service Card

These things came your way—

ROCKET ROLLERS—first synthetic rubber job roller

ACE ROCKETS—improved job roller

ACE GRAYTONE ROLLERS—Here's the remarkable new Graytone Ace Job roller! It has all of the advantages of the first two rollers, PLUS—

1. Now you can see whether your rollers are properly inked before you start the job.
2. Now you can see whether you need ink during the job.
3. Now you can tell when the rollers are clean!

And all because we have started making these rollers with the same high-priced Graytone material now used on much costlier rollers.

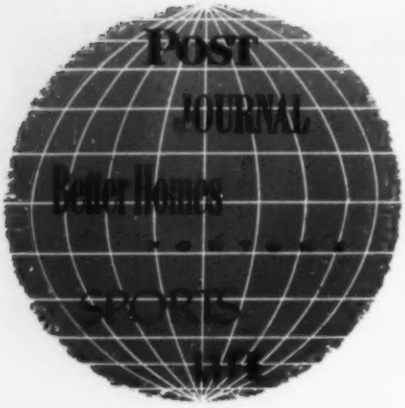
Yet it costs less than the price of a ream of stock to try Ace Graytone rollers in your own pressroom and on your own press. Just mail the attached card. You'll be so happy!

ANOTHER FIRST

4 **FACTORIES**
CHICAGO 8, ILLINOIS
LONG ISLAND CITY 1, N.Y.
HUNTINGTON PARK, CALIF.
CHAMBLEE, GEORGIA

IDEAL ROLLER & MANUFACTURING CO.

For More Information Circle 72 on Reader Service Card



THESE EXAMPLES OF TYPOGRAPHIC PERFECTION ARE SET IN MONOTYPE

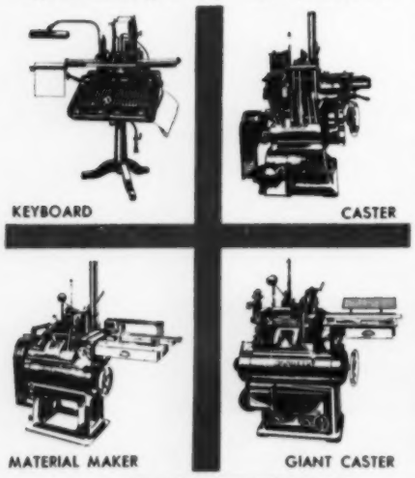
For examples of typographic perfection examine the pages of these magazines, set by the Monotype System . . . and you will agree that, here is typography at its best.

In every case, publishers whose aim is perfection, choose Monotype not only for its clarity, readability and ease of correction but also because they know that it *costs less from copy to press than* other typographic methods.

Monotype can give your customers the same high quality composition . . . type setting with incomparable eye appeal for advertising copy, technical literature, book composition, tabular matter, magazine work, etc.

It will pay you to look into the advantages of Monotype. Write for our newest literature "The Monotype Family."

Type set in Monotype faces 20th Century and Bulmer.



LANSTON MONOTYPE COMPANY

24th & Locust Sts., Philadelphia 1, Pa.

Circle 82 on Reader Service Card

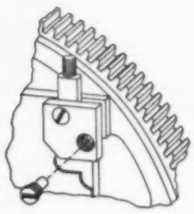
Equipment and Supplies

(Continued from Page 28)

and is soluble in water. For further information, please circle No. 255 on the Reader Service Card.

Flatbed Press Chase

For newspapers using Duplex or Cox-o-type presses, printing direct from type, Beard Newsprint & Warehouse Co., Inc. recently announced its flatbed chase with foot bar and side stick. Top and bottom frames are made of aluminum. A removable side frame is provided for column size changes. Top and bottom frames can be cut off and the side frame replaced for narrower chase. For further information, please circle No. 265 on the Reader Service Card.



Improved Star Mold Disk—Star Parts, Inc. recently announced an improvement in the Star Parts mold disk for Intertype machines. It was formerly necessary to remove the mold disk to drive out a bolt pin. With the new device, the pin becomes a combination of screw and pin. A short threaded end screws into the block to permit removal when necessary. The part number is U-83-A. For further details, please circle No. 274 on the Reader Service Card.

Econ-O-mist Ink Spray

Formulated to work with oil base inks, states Braznell Company, Econ-O-mist Ink Spray Bomb is intended to effect economies in printing press operation. Econ-O-mist may be used with fast drying inks. Its use prevents ink skinning when the press is stopped for lunch times, mechanical difficulties or application to the inking system when the run is to be continued next morning. It is designed to maintain the ink in workable condition.

By pressing the valve on the pressurized container and spraying the conditioner into fountain and on the rollers while the press is turning slowly, a fine mist is emitted from the nozzle. Econ-O-mist may also be used to prevent skinning of ink in the can.

In addition to its other functions, sponsor states Econ-O-mist may be employed to spray inking mechanisms in presses in which moisture set inks are in use just prior to washing up. This breaks up the ink

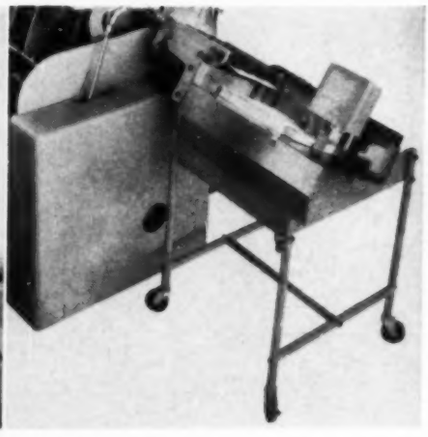
so that ordinary solvents can be employed for washing up.

Manufacturer also states Econ-O-mist may be used for spraying rubber dies when the dies are removed from the press. This prevents the inks from drying and injuring the rubber. It is also stated that Econ-O-mist will not change the color of ink or alter its characteristics if used according to directions. For further information, please circle No. 268 on Reader Service Card.

Stapling Attachments, Cross-stacking Unit

A stapling attachment which is said to staple sets of paper up to ¼ in. thickness and handle 4000 sets per hr., and an attachment for stapling paper up to 1/16 in. in thickness, have been developed by the Macey Company. A cross-stacking unit which is said to deliver 4000 completed sets of paper hourly also has been developed. Both the staplers and stacker are for use with Macey collating equipment. One or two staples can be

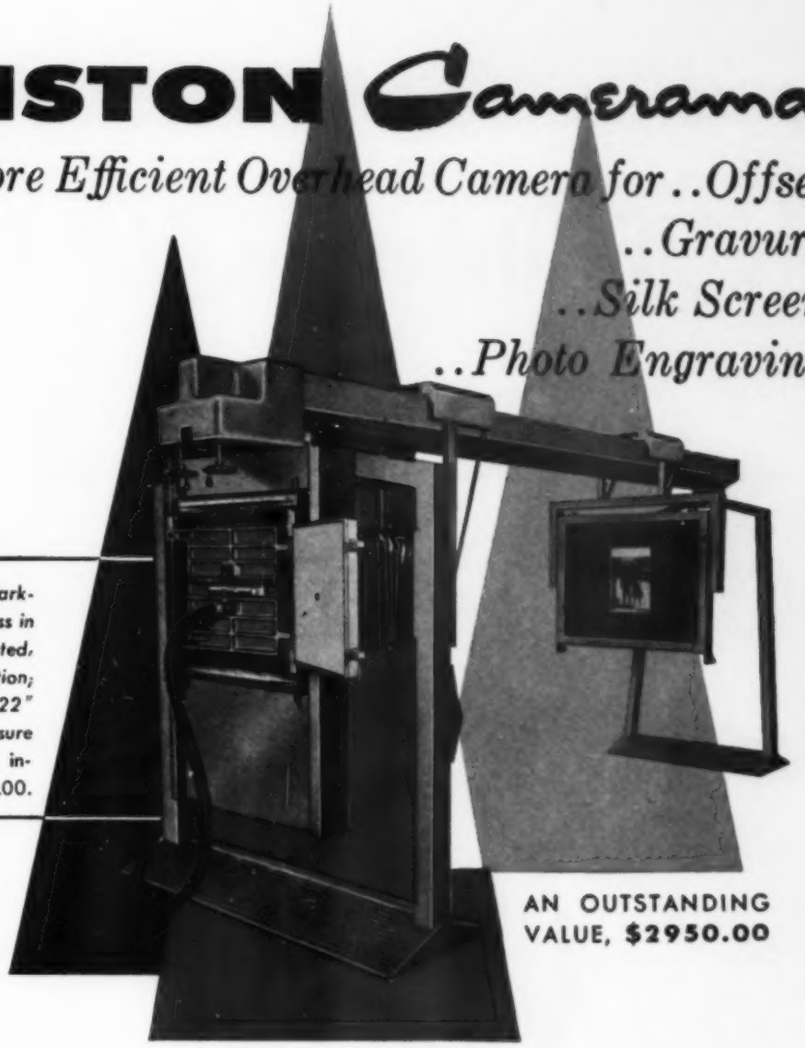
(*Continued on Page* 46)



At left is a stapling attachment developed by the Macey Company for use with Macey collators. At right is the Macey cross stacking unit.

The LANSTON Camerama

New..Improved..More Efficient Overhead Camera for..Offset
..Gravure
..Silk Screen
..Photo Engraving



View shows the Camera from the dark-room end which includes: ground glass in swinging frame . . . manifold-operated, vacuum film holder in operating position; for handling film in sizes up to 18 x 22" and the 30 x 40" glass covered pressure type copyboard. All these features included in basic price of $2950.00.

AN OUTSTANDING VALUE, **$2950.00**

High in efficiency, yet low in price, this versatile overhead camera handles any photographic requirement economically, speedily and accurately. Constructed of aluminum and steel, compactly designed, easy to operate. Installed without rigging.

Many of the features included in this camera are found only in models costing up to double the price! The Lanston Camerama offers unlimited profit-making opportunities with only a limited investment. SEND FOR FULL INFORMATION TODAY—Use the coupon below.

LANSTON MONOTYPE COMPANY

A DIVISION OF LANSTON INDUSTRIES INCORPORATED

24th & Locust Streets • Philadelphia 1, Pa.

BRANCHES: Atlanta—Chicago—New York—Philadelphia

DISTRIBUTORS: Rocky Mountain: A. E. Heinsohn Inc., Denver, Col. Chicago: Roberts & Porter, Inc.

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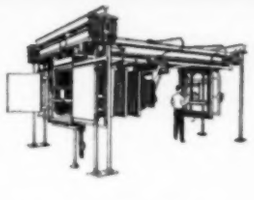


Type set in Monotype faces 20th Century and Century Expanded No. 20.

LANSTON MONOTYPE COMPANY PEE
(A Division of Lanston Industries Incorporated)
24th & Locust Streets, Philadelphia 1, Pa.

Send new literature on the Lanston Camerama ☐
Step & Repeat Machine ☐ MH Overhead Camera ☐
Vertical Plate-coating Machine ☐

NAME_____

FIRM_____

CITY_____ STATE_____

For More Information Circle 176 on Reader Service Card

It's Huber for ROP Colors:

ANPA Standards or Specials Tailored to Your Needs

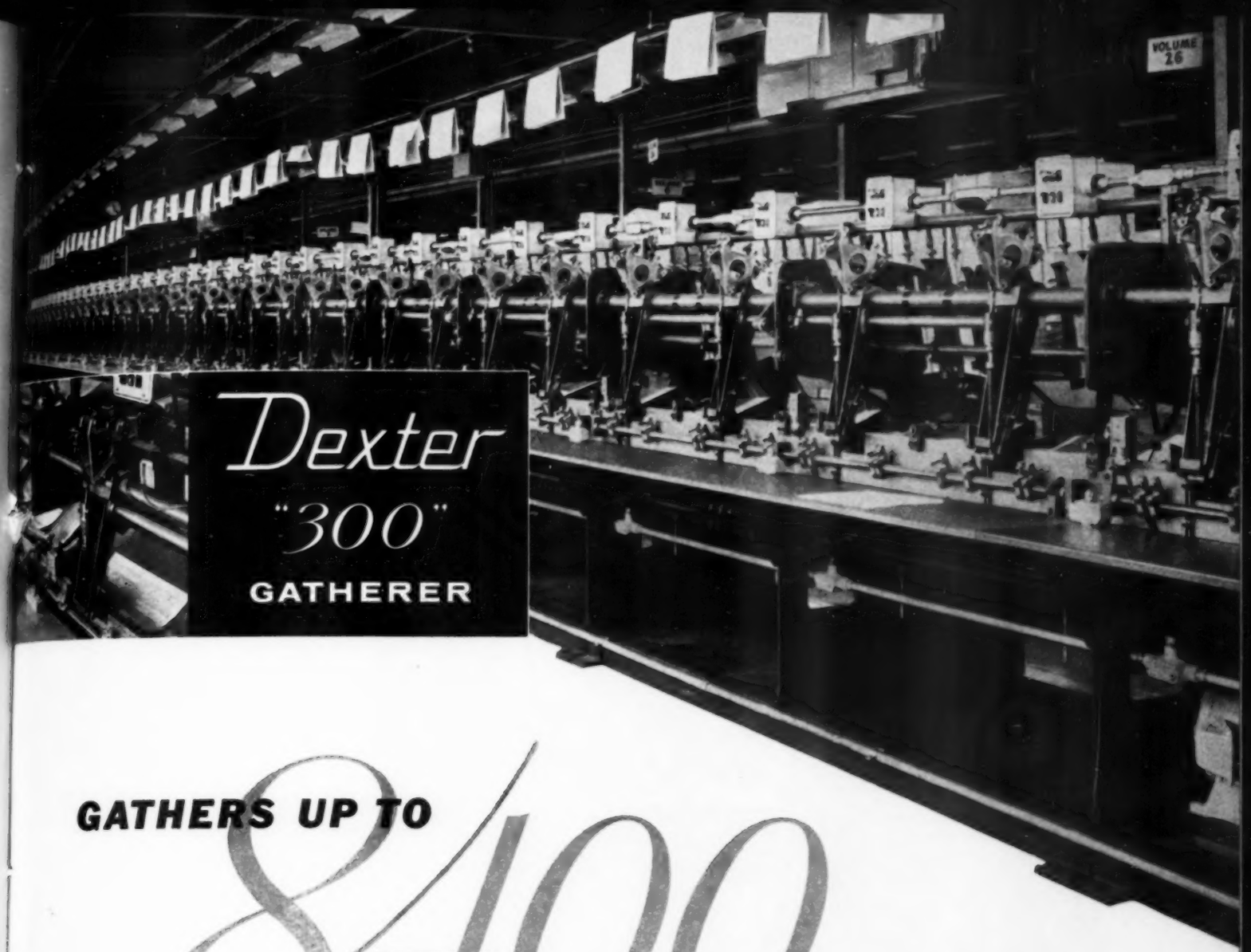
HUBER INKS

Our representative will help you work out your requirements

J. M. Huber Corporation

Hillside and Bayonne, N. J. • Chicago, McCook and East St. Louis, Ill. • Baytown and Borger, Texas • Boston, Mass. • St. Louis, Mo. • Huber, Ga.

For More Information Circle 70 on Reader Service Card



Dexter "300" GATHERER

GATHERS UP TO 8400 SETS PER HOUR!

There's really only one way to fully appreciate all of the advantages and productive ability of the fast Dexter "300" Arm Gatherer and that's to see it in actual operation. But before you do here's a quick "preview" of a few of its features.

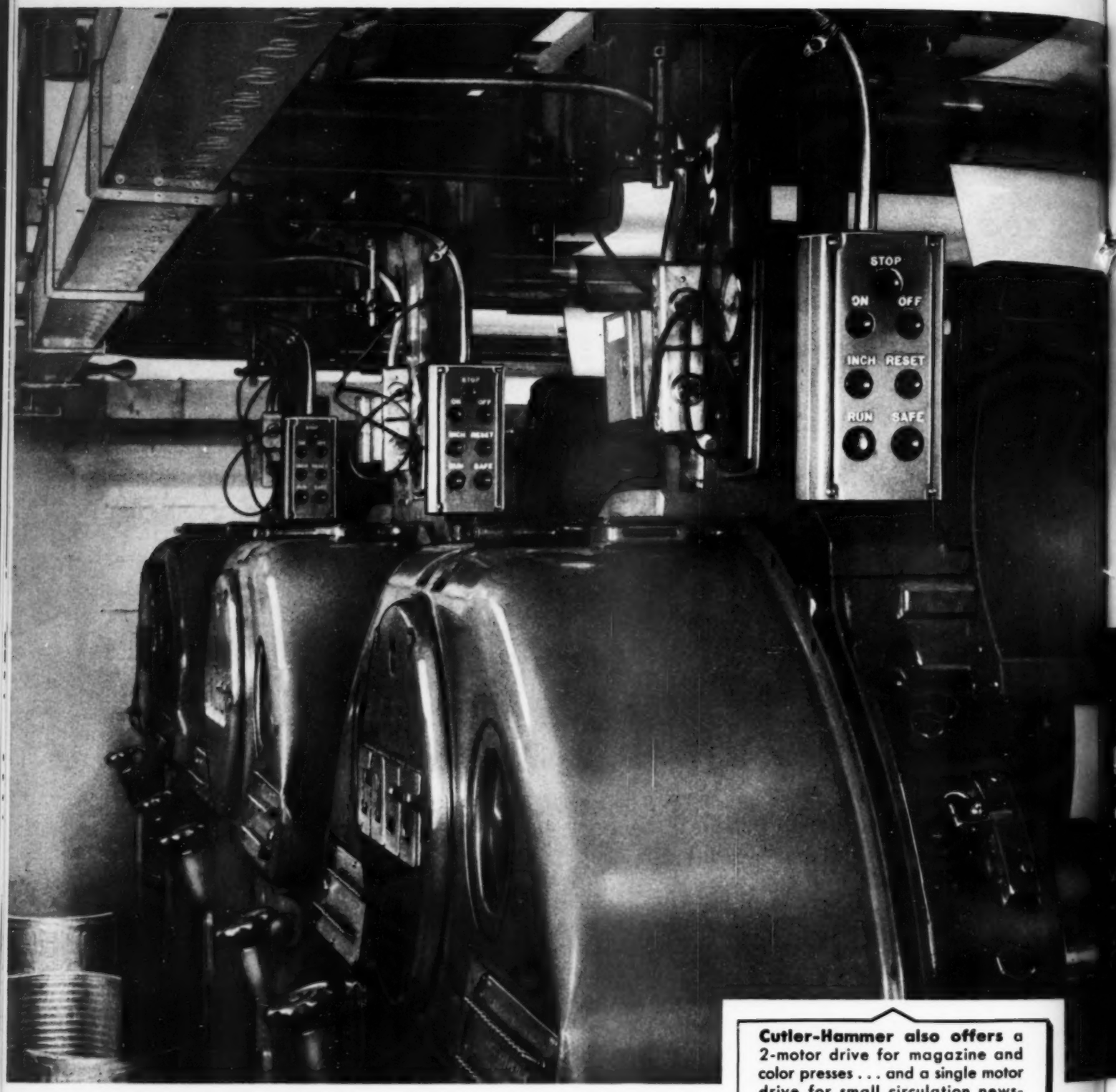
It's built on the Unit Construction principle in four-pocket sections, which means you can install just the number needed initially and add sections as volume grows, up to 48 pockets. Lightweight construction in the oscillating gripper arms—*where it's necessary*—reduces vibration to the minimum which means longer life and consistent accuracy at high speeds. And of course, the "300" has speed—*up to 8400 signatures or sheets per hour!*

There are other features too...many others, all combined to accomplish one objective—fast, efficient gathering and more profits for you. But, as mentioned above, the only way to appreciate all the advantages is to see the Dexter "300" Gatherer perform. Call your Dexter representative and have him arrange a demonstration. And if you want more of a "preview"...

Write or call today for our descriptive folder

DEXTER FOLDER COMPANY
DIVISION OF MIEHLE-GOSS-DEXTER, INC.
219 East 44th Street, New York 17, New York
For More Information Circle 42 on Reader Service Card

For its New 6-Unit



New Goss press units in plant of Bridgeport Post-Telegram. Equipped with Cutler-Hammer Unit Drive.

Cutler-Hammer also offers a 2-motor drive for magazine and color presses . . . and a single motor drive for small circulation newspapers. Both types are extraordinarily successful.

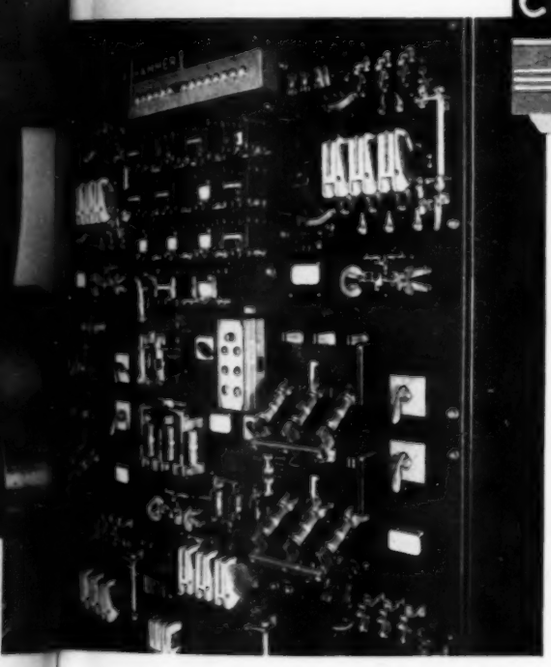
Keep it Simple..Keep it Sturdy

One-Folder Press

BRIDGEPORT POST-TELEGRAM Chooses CUTLER-HAMMER

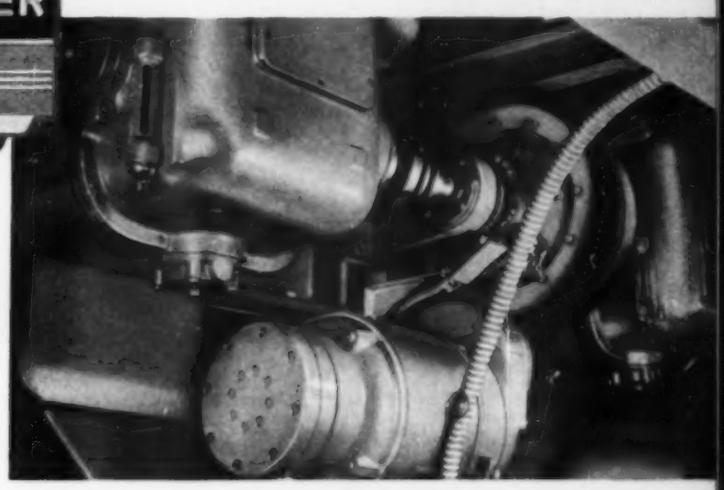
The Bridgeport Post-Telegram of Bridgeport, Connecticut, with a combined circulation of 90,000 plus, installed Cutler-Hammer Unit Press Drives on its latest unit-press addition. This story is typical of many newspapers whose owners and publishers have found it pays to keep their press drives simple, sturdy, and Cutler-Hammer. Cutler-Hammer Unit Drives are 100% unitized —every press and folder unit has its own drive, control, and power supply. Only sturdy, industrial types of components are used. Pressmen like the precise threading and inching action, and the smooth, responsive main drive acceleration. Plant electricians "know" this type of equipment and the simplicity of design makes it easiest to maintain. Be sure you have all the facts before you buy. Write today. CUTLER-HAMMER, Inc., 1460 St. Paul Ave., Milwaukee 1, Wisconsin.

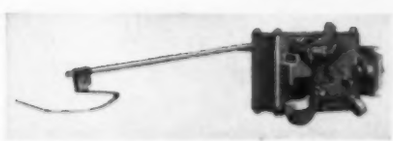
CUTLER·HAMMER
MOTOR CONTROL
C·H



Primary controller for the A.C. unit type press drive designed by Cutler-Hammer for the Post-Telegram.

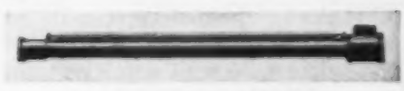
Threading motor which is disconnected mechanically and electrically when the unit drive motors take over.





CUTLER-HAMMER
WEB BREAK DETECTORS

Stop press quickly if web breaks. Web can be rethreaded without latching detectors. Easy to mount.

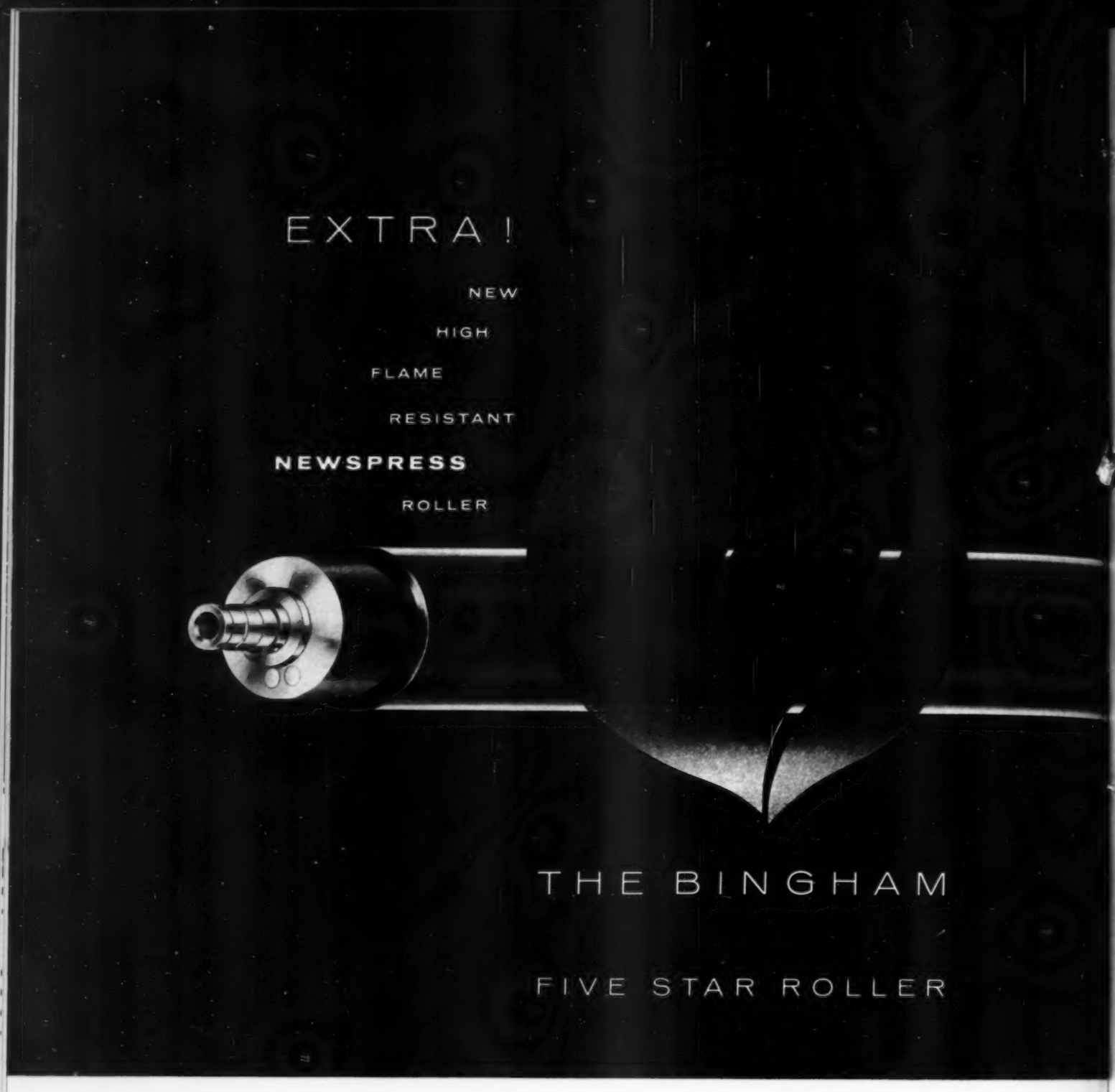


CUTLER-HAMMER
WEB SEVERING DEVICE

A Cutler-Hammer "original" that has resulted in greater total savings than any other single accessory. It instantly slashes broken web close to impression and guards against destructive wrap-arounds and costly delays—resets automatically.

..Keep it CUTLER-HAMMER

For More Information Circle 40 on Reader Service Card



This is the Bingham **FIVE STAR (FINAL)** ★★★★★, the latest and best, effectively flame-resistant newspress roller . . . another "first" added to the famous Bingham line of flame-resistant newspress rollers, which daily —on more presses than any other kind—are getting the nation's papers on the street and in the mail while news is still news. Another speed factor is the faster Bingham regrinding service provided by Bingham's nationwide network of factories.

From your nearest Bingham factory, your most exacting requirements can be supplied in a minimum of shipping time. This will keep your rollers *on your presses* earning profits—not in a freight car or truck.

For safety sake, standardize on Bingham Five Star flame-resistant rollers. Whether you need new rollers or faster regrinding service—do as most metropolitan dailies do—so contact your nearest Bingham plant.

NATURAL RUBBER OR
FLAME-RESISTANT ROLLERS—
RUBBER REGRINDING SERVICE

SAM'L BINGHAM'S SON MFG. CO.
MANUFACTURERS OF
PRINTERS' ROLLERS

SERVING THE PUBLISHING INDUSTRY
FOR OVER 100 YEARS

Bingham Rollers are on more presses than any other kind

Chicago • Atlanta • Cincinnati • Cleveland • Dallas • Des Moines • Detroit • Houston • Indianapolis • Kalamazoo • Kansas City • Milwaukee • Minneapolis • Nashville
Oklahoma City • Pittsburgh • St. Louis • Searcy, Ark. • Springfield, O.

For More Information Circle 177 on Reader Service Card

Why you can benefit with
MAGNESIUM PLATES

Magnesium is becoming increasingly popular in the graphic arts field. Here are the advantages engravers and printers alike are now enjoying with magnesium photoengraver's metal.

rapid etching. Acid baths do their job much faster on magnesium, and less acid is required. This means more plates, faster, with deeper etching and more positive control. These outstanding characteristics are even more advantageous when magnesium is used with the Dow Etch Process, a method for producing shoulderless engravings that cuts engraving time and greatly increases quality.

uniform gauge. Magnesium plate is made to precision tolerances to assure uniform flatness and thickness. This makes possible maximum accuracy in engraving and minimum make-ready time on the press.

dimensional stability. An unusually stable metal, magnesium will not shrink or stretch during processing.

hardness and strength. Magnesium is one of the toughest and most durable metals used in the graphic arts field. It retains a good image under long and severe conditions of use. Runs of one and two million from the same magnesium plate are not uncommon.

fine grain. The size of magnesium grain is less than 0.001". This small grain size means magnesium has superior structural strength and is highly resistant to distortion.

light weight. Weighing only 1/5 as much as copper, 1/4 as much as zinc and steel, magnesium is easier to handle, both on and off the press. As a result, higher press speeds can be attained with magnesium printing plates.

color. Because of its rigidity and superior dimensional stability, magnesium is excellent for register in color work and permits substantial savings in color plate costs.

machinability. Heavier depths of cut can be made with greater speed. Magnesium is easier to saw, route and bevel than any other metal.

re-etching. Magnesium can be readily re-etched by slightly modified procedures.

Contact your local metal supplier for magnesium photoengraver's metal or write to us for more information. THE DOW CHEMICAL COMPANY, Midland, Michigan, Dept. MA 1421BB.

YOU CAN DEPEND ON DOW

For More Information Circle 44 on Reader Service Card

Q. *What is Micro-Metal?* *What are its advantages?*

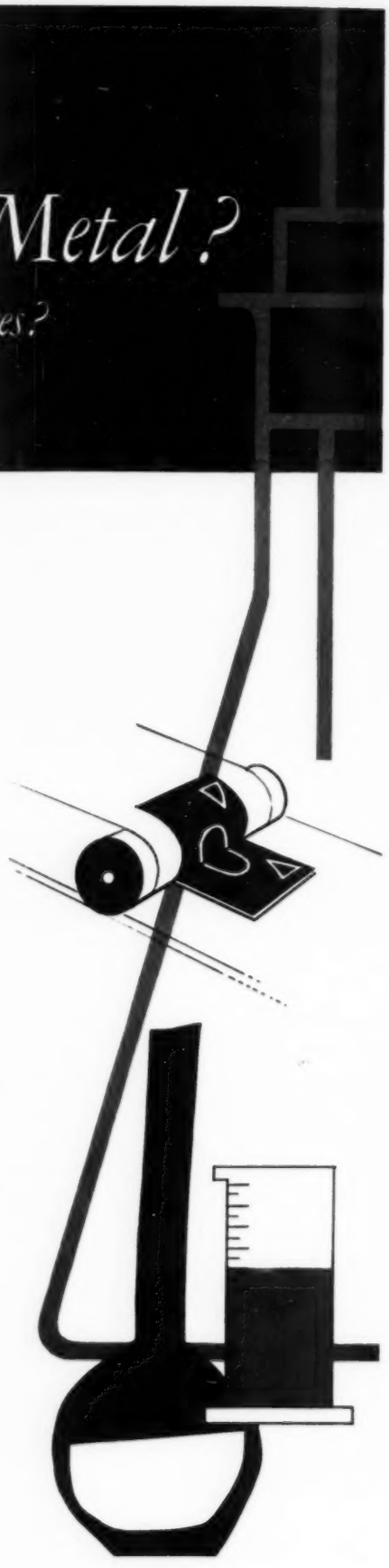
A.

Micro-Metal is a superfine engravers' zinc—ideal for powderless or conventional etching.

Micro-Metal has proved its quality and value to newspaper production men: It has an exceedingly fine grain—etches fast and smooth—reduces undercutting—eliminates buckling—assures color register—has accurate gauge—has maximum wear resistance—and permits long mat runs.

Precision made, scientifically tested, and quality controlled, this newest engravers' metal is being used more and more by newspaper and commercial engravers to produce better photoengravings.

ORDER FROM YOUR REGULAR SUPPLIFR



QUALITY PHOTOENGRAVERS PLATES

ZOMO ZINC
A-Z ALLOY
OWL BRAND
MICRO-METAL
ZOMAG

WRITE TODAY FOR YOUR FREE COPY OF "MICRO-METAL AND POWDERLESS ETCHING."

Rolled Plate Metal Company and Atlantic Zinc Works, Inc., Brooklyn 31, New York.

For More Information Circle 14 on Reader Service Card

They set in a SPLIT SECOND!

91	Job Black for absorbent stocks. Can be left on press several days.
92	Regular Job Press Body Black. No drier, can be left on press overnight.
93	Halftone Cylinder Black. No drier, can be left on press overnight.
94	Halftone Cylinder Black. Contains drier, *cannot* be left on press overnight.
95	Halftone Cylinder Press Black. Contains drier and compound for added rub and scratch resistance. *Cannot* be left on press overnight.
47	Offset Halftone Black, most popular. Contains drier, and *cannot* be left on press overnight.

IPI Speed King Blacks are newly improved packaged inks. There are six different blacks for different specific uses: A job black for absorbent stocks, a regular job press body black, three halftone cylinder press blacks and an offset halftone black. Although these blacks vary somewhat in degree of characteristics, in general they offer these advantages:

1. Split-second setting
2. Ultra fast drying
3. Improved press stability
4. Less dryback—almost as bright dry as wet (on coated stock)
5. High finish on coated stocks and brilliant finish on enamel, *Kromkote*, *Lusterkote* and C1S label papers
6. Print sharp and clean

If you have not yet tried Speed King blacks, contact your IPI salesman. He will be glad to arrange a trial run.

IPI, IC and Speed King are trademarks of Interchemical Corporation

INTERCHEMICAL PRINTING INK
CORPORATION DIVISION

EXECUTIVE OFFICES: 67 W. 44th ST., NEW YORK 36, N. Y.

For More Information Circle 74 on Reader Service Card

"Castomatic® helps you reduce type metal losses

With "Castomatic" type metals, and maintenance of the proper lead-tin-antimony balance by replacing dross with Federated "Mor-Tin"®, you **can** reduce losses by drossing by substantial amounts. Castomatic metals, cast automatically under pressure in sealed machines, are free of dross-producing oxides. Federated Mor-Tin balances both total quantity of metal and the proportions of ingredients lost by drossing.

So, when you buy type metals, look first for the Castomatic trademark. Send for the interesting booklet, "How to Save Money on Type Metals" . . . and get in touch with your nearest Federated office for help in solving your type metal problems. Just write or call:

Federated Metals ASARCO

Division of

AMERICAN SMELTING AND REFINING COMPANY

120 Broadway • New York 5, N.Y.

In Canada: Federated Metals Canada, Ltd., Toronto and Montreal

For More Information Circle 49 on Reader Service Card

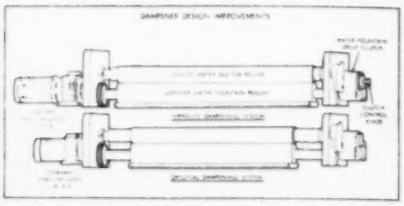
Equipment and Supplies

(Continued from Page 36)

driven into 80 sheets of 20 lb. paper, using round wire feed from a self-contained spool with one of the staplers. The other can drive from one to four staples through about 32 sheets of average thickness, according to Macey. The stacker, which stacks material criss-cross, can be used with a max. paper size of 12 in. by 17 in. For further information, please circle No. 262 on the Reader Service Card.

Dampener Design Change

The Miehle Printing Press & Mfg. Co. recently announced dampener



changes for its 61 in. and 76 in. offset presses. The water fountain roller, water ductor roller and water fountain pan have been lengthened and the former ⅛ h.p. transmission has been replaced by a ¼ h.p. unit. A water fountain drive clutch also is now available as optional equipment to permit the drive to be disengaged when the dampener is off. These devices may be applied to existing presses. For further information, please circle No. 270 on the Reader Service Card.

Nolan Scrap Metal Lift

Nolan Corporation has announced a modified Melt-Lift for use in small-

er dailies, larger weeklies and job shops. In the unit is featured an attachment by which the ascending cradle yoke engages two bars which automatically open the furnace cover to receive scrap metal as it is dumped. The Melt-Lift is designed

(*Continued on Page* 106)

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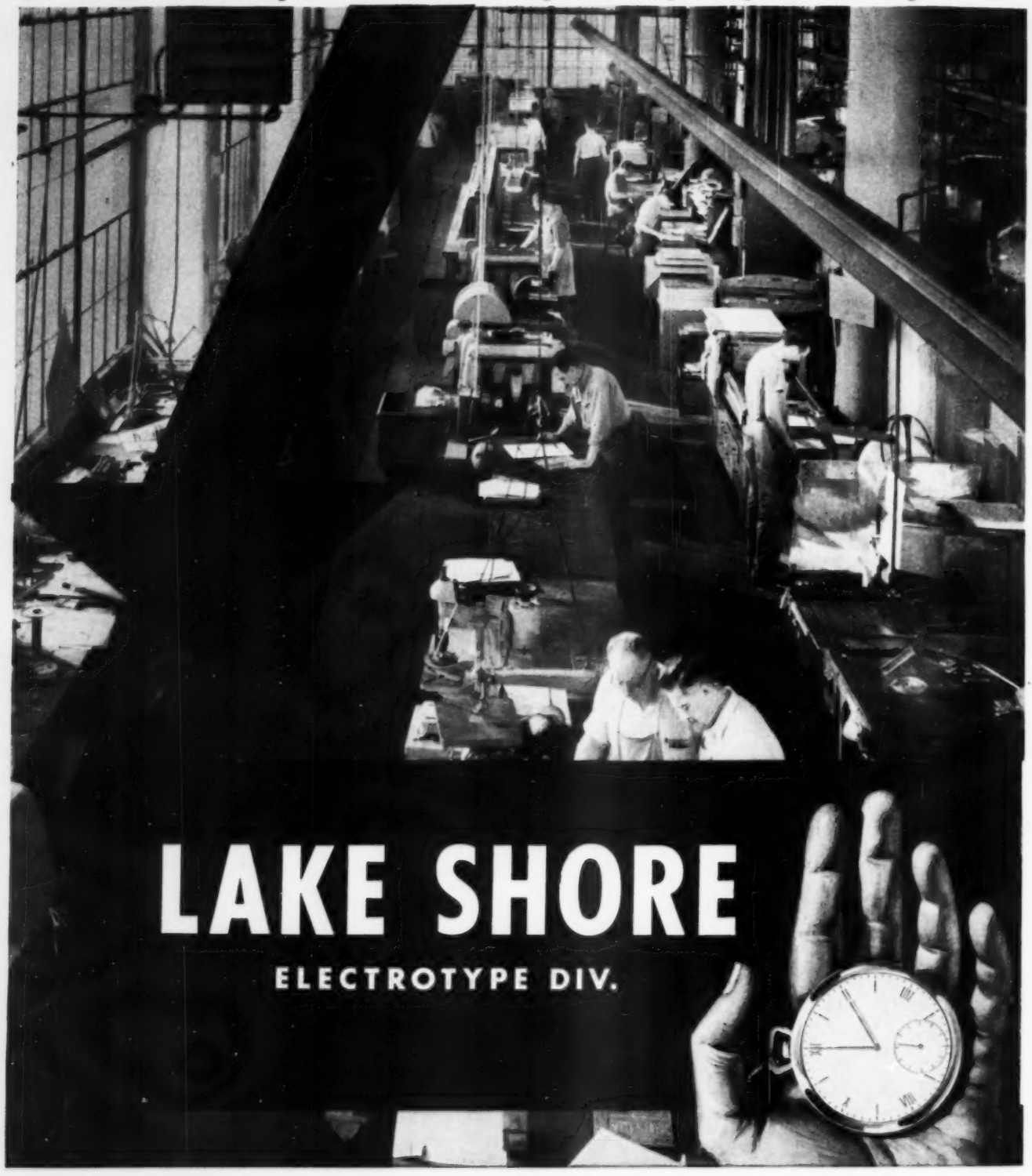

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Bring them down with a SIGNODE Automatic Wire Tying Machine

first choice of more than 350 newspapers world-wide

If your daily press run is 50,000 or more, one or more Signode Automatic Wire Tying Machines can help you make *permanent* reductions in mailing-room operating costs.

You can effect reductions in labor costs, use your manpower most efficiently, meet all delivery deadlines, and assure your customers of tight, windproof bundles with added protection against pilferage.

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Find out for yourself how Signode has eliminated the causes of tie-ups—how these heavier, sturdier wire tying machines can put your mailing-room cost savings on a permanent basis. Write:

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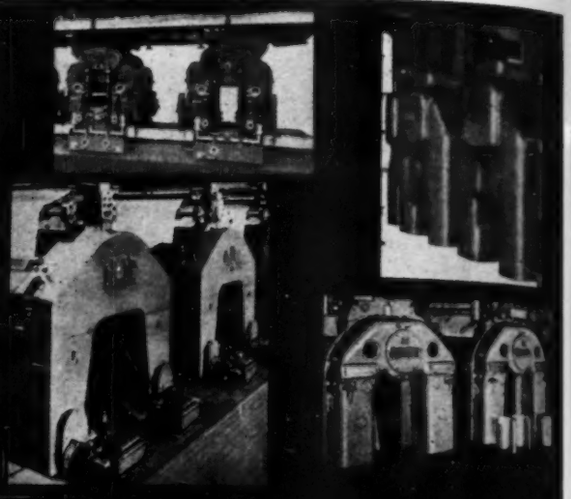
Someday, perhaps in the not too far distant future, your newspaper will be getting new presses. No matter of which manufacture . . .



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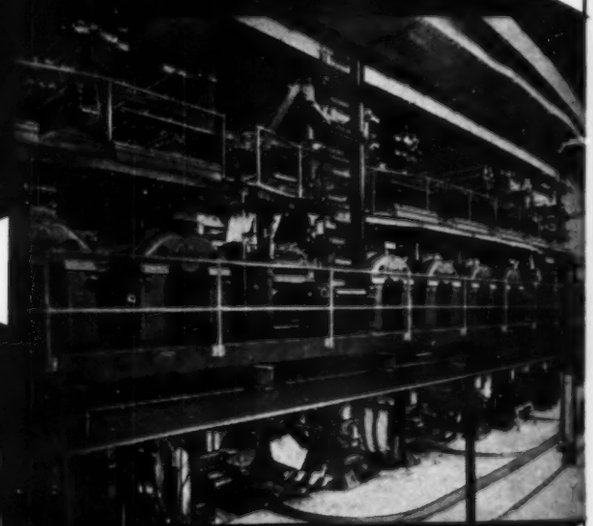

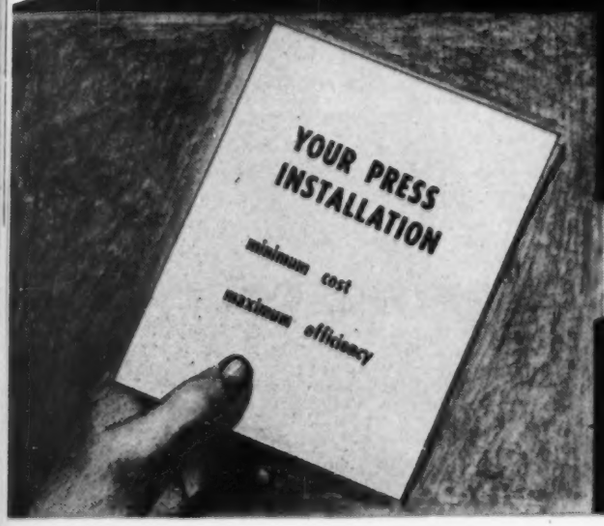

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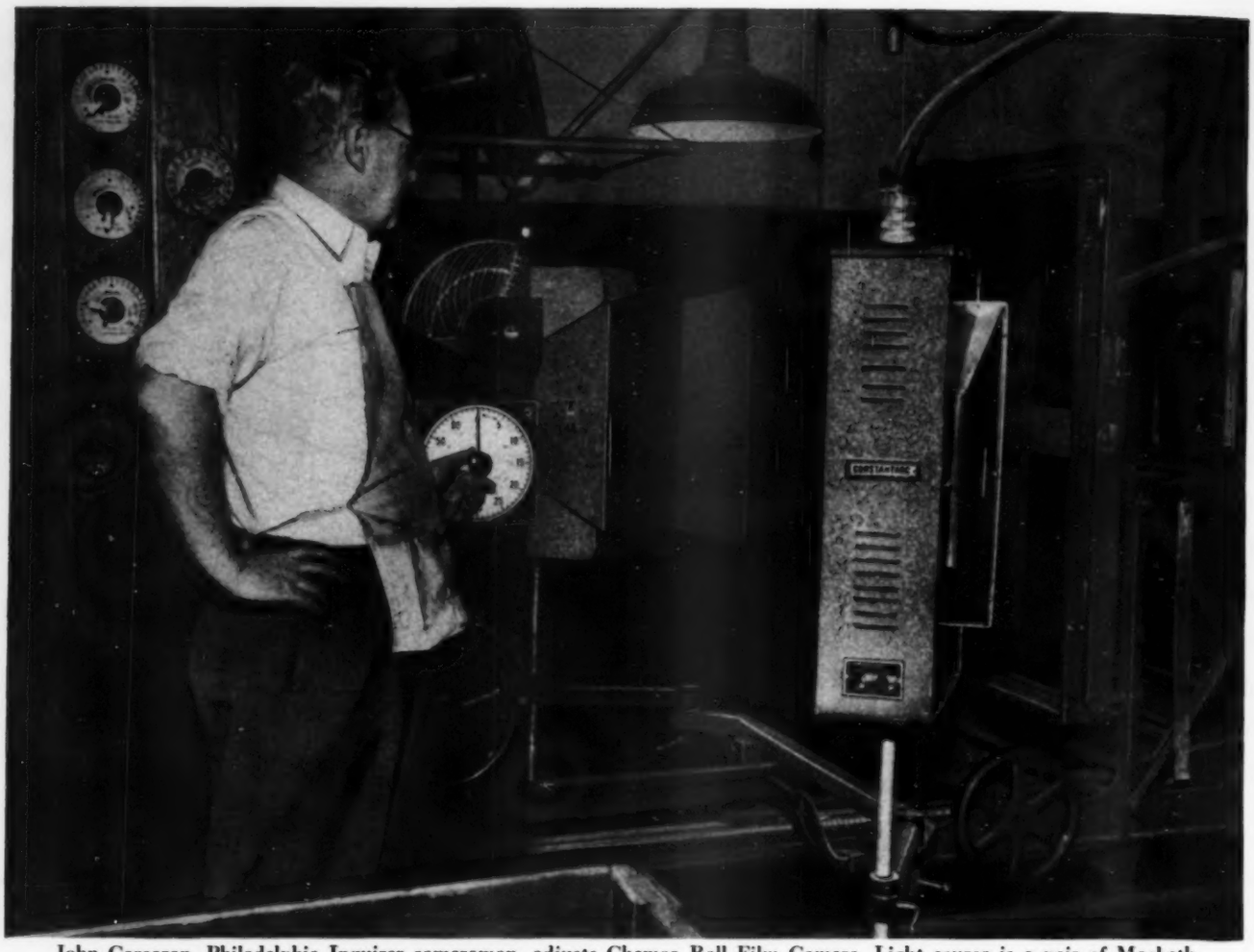

John Corcoran, Philadelphia Inquirer cameraman, adjusts Chemco Roll Film Camera. Light source is a pair of Macbeth *Constant*arc Lamps with Macbeth CFC-9 carrier designed to replace the tube lighting-unit provided as standard equipment.

Philadelphia Inquirer Reports 2/3 Reduction in Exposure Time

Making two-stop newspaper halftones in twenty seconds with conventional engravers' film now is routine at the Philadelphia Inquirer. And the Macbeth *Constant*arc Lamps used to achieve this amazing speed give the cameraman the additional advantage of absolute control over light intensity, evenness, and color temperature exposure after exposure.

Automatic Arc-Regulation

Like all *Constant*arcs, the lamps on the Philadelphia Inquirer's Chemco Roll Film Camera provide fully automatic regulation to compensate for fluctuations in line voltage. These lamps actually are completely and constantly automatic-regulating. There are no meters to watch or tap switches to adjust—the cameraman can devote all his time and attention to his camera. What's more, there's no time-wasting "warm-up" needed; no flash or flutter to alter true exposure.

The *Constant*arcs illustrated here are dual-speed lamps providing one speed for conventional film and a second speed for high-speed paper-backed film. Designed specifically to replace the tube lamps supplied as standard equipment with the camera, these *Constant*arcs feature the Macbeth CFC-9 carrier.

Constantarc Versatility

Macbeth *Constant*arc Lamps are available for any camera. Various types of reflectors are provided to assure maximum evenness of illumination with a minimum of light-loss from spillage or excessive light-to-copy distance. And, whether the requirements call for lamps in pairs or double-deck sets, mountings to suit any type of camera or carrier can be supplied. A choice of amperages is further assurance that the demands of a particular application can be met.

The "airflow" design and construction of *Constant*arcs provide for the use of an optional exhaust system to eliminate heat and carbon ash from the vicinity of the camera. Although this optional equipment is not essential to the proper operation of the camera, it is a decided advantage in many places, especially in air-conditioned buildings and confined spaces. In most cases, the power-saving features of Macbeth transformers make it possible to install these high-speed arc lamps without the need of replacing wiring and other electrical equipment being used with conventional lamps.

Other Applications

Macbeth can supply the right *Constant*arc Lamps for printing frames and photo-composing machines as well as cameras . . . for use in photo-engraving, lithography, gravure, blueprinting. Complete data and illustrated literature can be obtained by writing Macbeth Arc Lamp Company, 141 Berkley St., Philadelphia 44, Pa.

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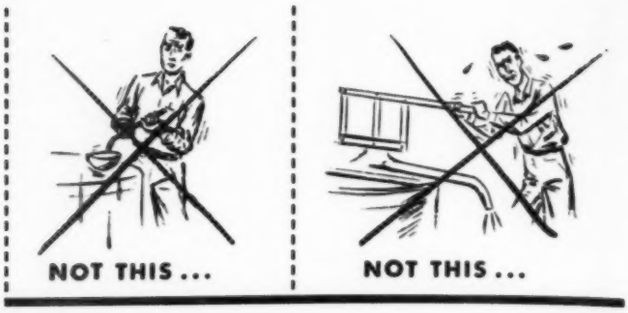

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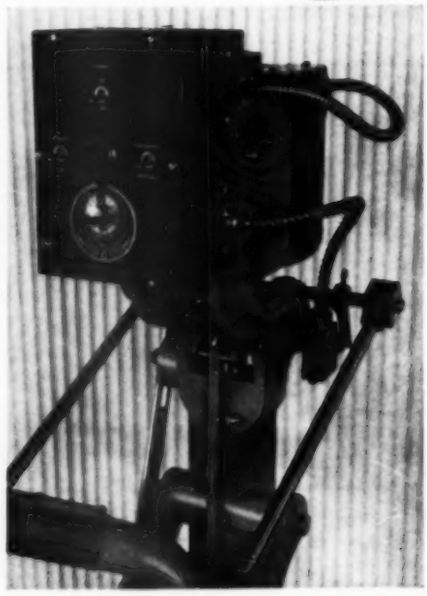

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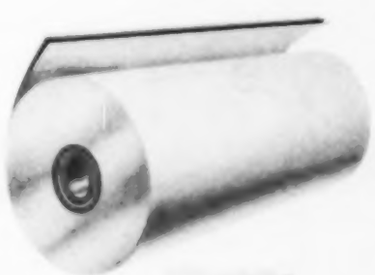

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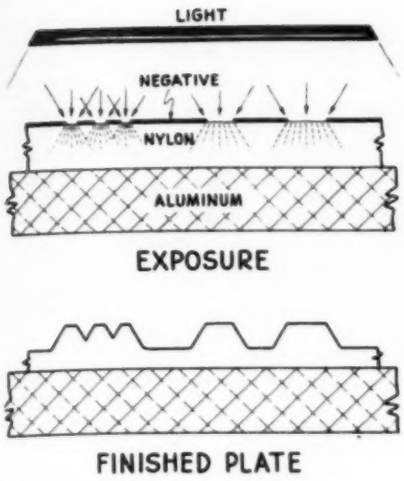


Fig. 1—Schematic preparation of a nylon relief plate. Light passes through negative and fans out in the photosensitive nylon.

Detailed report of Time's development of a

Nylon Letterpress Plate

By DR. ROBERT M. LEEKLEY*

**Springdale Laboratories Div., Time Incorporated, Springdale, Conn. Prepared in collaboration with R. L. Sorensen, D. J. Byers, J. V. Casanova, K. B. Latimer, all of the Sprindale division.* *Presented among the technical papers given at the 9th Annual Meeting of Technical Assoc. of the Graphic Arts held at Benjamin Franklin Hotel, Philadelphia, May 13-15, 1957.*

While a great deal of work has been done on photosensitive plastic coatings for the Graphic Arts field, very little has been reported on plastics which are light sensitive in depth and their use in the preparation of plastic relief printing plates. In the work which we have done in this field we have chosen to work with one of the nylons, because the inherent toughness of this material seemed to make it particularly suitable for a wear resistant printing plate.

The nylon plate is the outgrowth of several years research which has gone down some blind alleys, but which has been consistently aimed at a new press plate for our news magazines. We wanted a new plate which would be strong, light in weight, accurate in both caliper and curvature, quick to make, capable of long press runs, and precise in register.

The plate has been given extensive laboratory evaluation. We have printed up to 300,000 imp. at speeds up to 2000 f.p.m. (without noticeable wear) on the full size press we have in our laboratory. Printing quality has been good. We are now making plates to caliper tolerances of ±0.0005 in. First pulls are excellent, for it is not necessary to locally spot up any portion of the plate. However, any new development eventually has to be tested under actual production conditions.

Still Only Experimental

We have recently been engaged in testing on a *Time* magazine production press. The program is still experimental, even though the printed product is used in the magazine. Due to variations in press layout a complete run for an individual plate may vary from 300,000 to over a million imp. Many plates finish the run, so we never know their ultimate wear. No plates have failed in less than 300,000 imp. and only a few in less than half a million. Many have run more than a million. Quality has been generally good and first pulls have been so satisfactory that no localized makeready has been required.

I must emphasize that we still consider this plate experimental, in spite of a considerable degree of success. We do not run every week even experimentally because we interrupt this program from

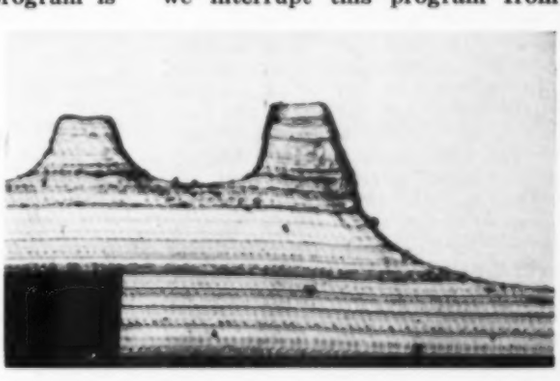


Fig. 2 — Microtome slice (greatly enlarged) of a nylon plate shows two adjacent halftone dots one of which is at the edge of the halftone cut.

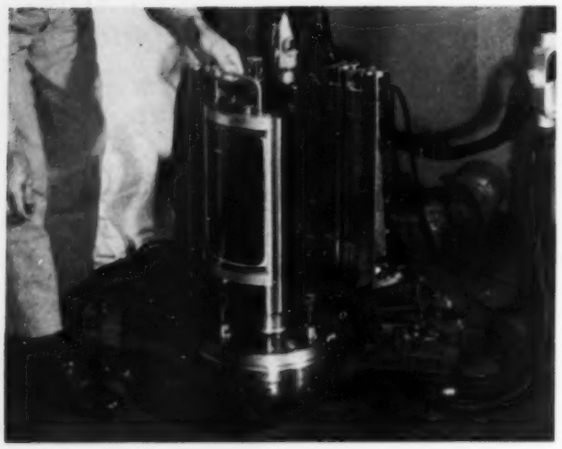


Fig. 3 — Machine for exposing the negative to the photosensitive nylon. A register system positions negative to plate. Mercury vapor lamps are the light source used for exposure.

time to time to improve our methods or equipment. Our effort to date has gone into making *Time* size curved plates. We do not have any equipment for making any other size, curvature or caliper. Our pilot plant for making plate blanks will have to be expanded before it is able to handle even our requirements on *Time*.

Perhaps I can anticipate a question which I am frequently asked. "When will the nylon plate be commercially available?" My answer is that I do not know. However, I would ask you to bear in mind two things. First, our own requirements will be filled first, and second, research and development work almost always take longer than we think.

Photosensitizing Nylon

The means chosen to render the nylon photosensitive are, we believe, novel but are beyond the scope of this article. For now we will just report that the composition, consisting largely of a nylon is initially alcohol soluble, but becomes insoluble upon exposure to actinic light.

With the nylon plate, halftones, line work and type are all treated alike. Fig. 1 indicates how this is possible. Light from a large light source passes through the negative and fans out in the photosensitive nylon. If we neglect light scattering, the angle these light rays make with a normal to the surface cannot be greater than 42 deg. due to the refractive index of the nylon. In the halftone areas these illuminated sections intersect at a distance only a few thousandths beneath the surface to form an insoluble layer. In line or type areas where the image elements are farther apart the illuminated portions do not intersect until a much greater depth is reached.

The soluble portions are next removed from the surface with a developer. The depth to which the halftones will develop has already been determined by the exposure step. Depth in the line and type areas is normally controlled by the amount of time in the developer.

This effect of the distance between image elements on depth of development is illustrated by a photomicrograph (Fig. 2). This shows two adjacent halftone dots one of which is at the edge of the halftone cut. Lateral attack of the type encountered in etching metals is no problem, since the sides as well as the top of the printing element are insoluble. The illumination is most intense at the surface and diminishes with depth. Consequently the composition is insolubilized most rapidly nearest the top surface. The depth of insolubilization is dependent, therefore, on length of exposure. It is only necessary to insolubilize the composition to the maximum depth to which the plate will be developed.

Sensitivity of Nylon

Knowledge of the spectral sensitivity of the nylon compositions is important in the selection of the light source to be used for exposure, and also in the selection of safe lighting conditions for handling and compounding the material. A spectrograph consisting of a Hanovia Xenon high-pressure arc lamp and a modified Bausch and Lomb grating monochromater has been used. An inconel step wedge in the entrance of the monochromater permits simultaneous exposure to several intensities of light. A specimen holder at the exit of the monochromater allows simultaneous exposure to wave lengths ranging from 280 to 600 mu. The specimens were prepared by casting films of the sensitized material from solution on sheets of anodized aluminum. After exposure the samples were developed in the same manner as the nylon letterpress plates. It is possible to work safely on nylon plates at high levels of visible light, provided that the ultraviolet light is effectively filtered out. Yellow fluorescent lamps are a very practical safe light.

The maximum sensitivity for the nylon plate occurs at somewhat different wave lengths than for the more conventional photoengraving resist, therefore, the optimum exposure conditions as well as safe light conditions will be somewhat different. It is not our intent to compare the relative sensitivity of these two very different photosensitive materials. The very fact that they are used in such totally different ways would render any such comparison meaningless.

Making a Nylon Plate

At Springdale a commercially available, soluble nylon resin is dissolved in solvent in a heated mixing vat. The photosensitizing compounds are then dissolved in this viscous solution and the mixture is cast as a crude sheet which is

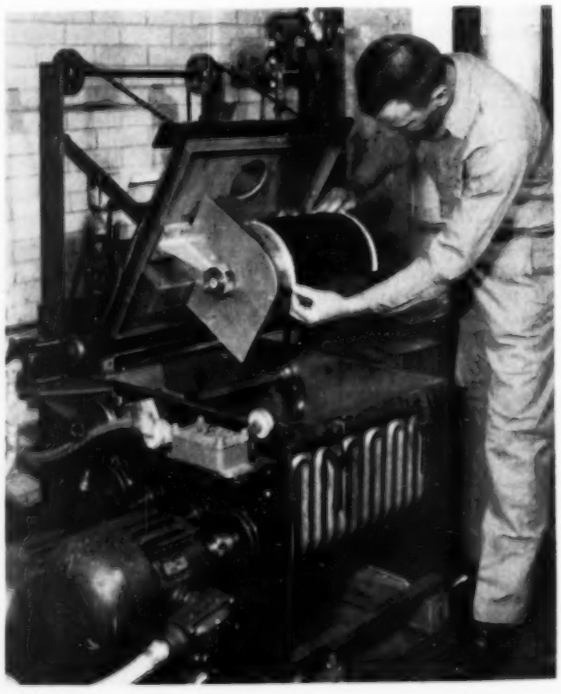


Fig. 4 — The machine for developing the nylon plate which takes the place of developing and etching in normal engraving practice. This model develops three plates at a time by splashing an alcoholic solution against the plate surface. An etch depth of 0.016 in. to 0.018 in. is reached in about 12 min.

then granulated and vacuum dried to form a photosensitive molding powder. This powder is then compression molded in a multiple opening press.

The molded sheet of photosensitive nylon is then laminated in a special machine to a pre-curved aluminum shell. In this process the male saddle is heated while the female saddle is cooled. The caliper of the plate blank is determined by the precision of the matching dies. The axis of curvature of the blank is properly positioned through register pins mounted in the hot male die which fit into holes previously punched in the aluminum shell. The photosensitive plate blank is then trimmed to size. It is now ready for shipment to our Chicago laboratory where the image will be applied. The plate can now be stored in the dark until it is needed. Tests indicate that storage life is in excess of 6 months.

To convert the precision photosensitive blank into a letterpress printing plate requires that it first be exposed through a negative. Fig. 3 shows the machine in which this is done. The negative is held tightly against the nylon surface by a combination of mechanical and vacuum holddown. The negative is accurately positioned in respect to the plate blank by register pins fixed with the exposing saddle. The light sources are General Electric UA11 mercury vapor lamps having a lighted length of 17 in. which are spaced 5 in. from the nylon plate surface. Each lamp provides about 800 w. of illumination rich in ultraviolet. Total exposure time is 2 min. and is controlled by the rate at which the plate revolves past the lamps.

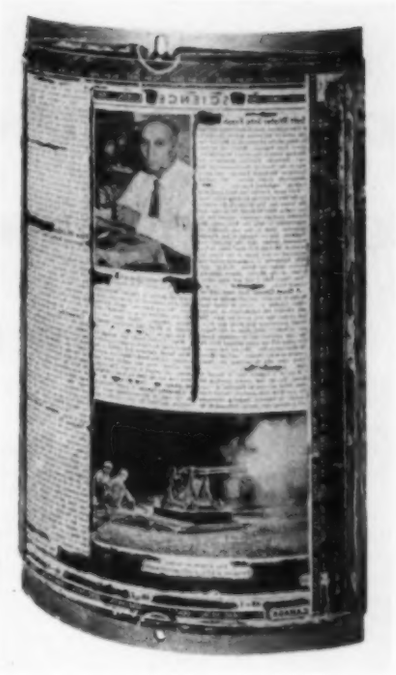


Fig. 5—A finished nylon plate that has been chalked up to photograph better. Halftone and type areas are included.

The developing step, which takes the place of both developing and etching in normal engraving practice, is accomplished in the machine shown in Fig. 4. This model develops three plates at a time by splashing an alcoholic solution against the plate surface. An etch depth of 0.016 in. to 0.018 in. is reached in about 12 min.

After drying in a warm air stream, trimming to size and routing on a conventional plate router, the plate is ready for the press. Fig. 5 shows a finished plate that has been chalked up to photograph better.

Since there is no lateral reduction of printing elements during platemaking the negative should resemble an offset negative rather than an engravers negative in tone scale. While we anticipate eventual use of phototypesetters and direct preparation of screened negatives we are at present using the Ludlow Brightype camera to photograph the locked up page containing type, line work and engravings. This produces a combination positive which is contact printed to give the negative we need for platemaking.

ANPA Mechanical Committee Studies Production Costs

During the April convention of the American Newspaper Publishers Assoc., held at New York Waldorf Astoria, the Mechanical Committe submitted its annual report. One of the highlights of the report is that steadily increasing costs of newspaper production is the top problem of the newspaper business. The Mechanical Committee urges publishers to use the same amount of modern skill and planning in manufacturing their newspaper that they use in editorial content, advertising and circulation.

In addition to Chairman J. Harold Mintun, Pittsburgh (Pa.) *Press*, personnel of the committee is as follows: James S. Copley, San Diego (Calif.) *Union* and *Tribune;* Leven T. Deputy, Dallas (Tex.) *News;* Charles A. Frederickson, Westchester County Publishers, White Plains, N. Y.; Henry Garland, Pittsburgh (Pa.) *Post-Gazette;* W. E. Gibbons, Portland (Ore.) *Journal;* Glen R. Hutchison, Los Angeles *Time* and *Mirror-News;* George F. Marshall, Portland (Me.) *Press Herald Express* and *Telegram;* Joseph E. McMullen, Milwaukee (Wis.) *Journal;* Harry Sloan, New York (N. Y.) *Mirror;* W. Watson Southam, Southam Newspapers, Ltd., Toronto, Ont., Can.; J. L. Stott, Richmond (Va.) *News Leader* and *Times-Dispatch;* Earl R. Weiskittel, Youngstown (O.) *Vindicator;* Allan M. Woods, Garden City (L. I., N. Y.) *Newsday.*

With respect to the last mechanical conference held in Dallas, Tex., June 1956, it is stated in the report that "the Conference was well attended and was one of the most interesting and informative we have ever held. There were many interesting exhibits and attendance at the sessions was extraordinary. The hospitality of the Texans was heart-warming to all who attended."

Various activities are discussed in the report like this:

"The Committee and Mechanical Dept. have been in assembling information on the column width problem. The Committee has been represented in the work of the ANPA Board Subcommittee which is trying to standardize column widths.

"Our Subcommittee on Color Ink Standardization has been active. Progress is being made in getting our standards accepted by advertising agencies. Our Subcommittee was well represented in the ROP color meeting in Chicago.

"The Committee has started a project to cover proper copy preparation. This will follow our several booklets on methods and standardization of color and material preparation. It is intended to improve individual newspaper operations by educating at the originating source of material.

"Our bulletins have been well received this year and we think we have been doing a much better job. We have tried to keep the business informed on new developments and actual new-field operations. Paper savings have been stressed as before.

Rising Costs vs. Decreasing Production.

"The Mechanical Committee recognizes the increasing cost of production as being the No. 1 problem of the industry. Not only have wages risen year after year since the war but we are also faced with a decrease in productivity. Added together, it has been impossible for the income-producing departments of newspapers to keep

(*Continued on Page* 115)

Research Reports, Materials Handling, Color Work and Phototypesetting

Technical subjects presented to the Philadelphia R. & E. Council's Annual Meeting • By MacD. SINCLAIR

The 1957 annual meeting of the Research and Engineering Council was held at Hotel Benjamin Franklin, Philadelphia, on May 15, 16 and 17. Approx. 210 came to the meeting. These men predominately were plant executives, research men and scientifically minded representatives from manufacturer and supplier companies. They came to hear about recent research accomplishments and the accomplishments needed and are now being worked on in the Graphic Arts to improve printing production.

Outstanding sessions were devoted to research reports, reports of committees on needed projects in the Graphic Arts, materials handling and phototypesetting.

On Wednesday, May 15 the entire day was devoted to plant visitations. This was a joint objective in connection with the just adjourned Technical Assoc. of the Graphic Arts meeting which was held at the same hotel. Plant trips were scheduled for the Curtis Publishing Co., Typographic Service, Inc., Imperial Type Metal Co., Triangle Publications, *The Evening Bulletin* and an all day trip to Easton (Pa.) ANPA Research Institute Laboratories.

Next year's Research and Engineering Council's meeting will be held on May 14, 15 and 16 at the Edgewater Beach Hotel, Chicago.

Research is Essential

On Thursday, May 16, Pres. Felton Colwell opened the 1957 meeting. After suitable introductory remarks he introduced General Chairman Samuel F. Chernoble, The Comet Press, Inc., New York, N.Y. Chernoble commented: "Research is essential. Research is fostered by intention in all industry. The printing industry is no exception. The printing industry is waking up to the fact that printing is potent. It is an effective means of communication and it is a decent way to make a living."

Chernoble then introduced Clarence L. Jordan, vice president of Philadelphia's Franklin Institute who delivered an enthusiastic address about Benjamin Franklin including Franklin's enthusiasm for scientific approach to all printing problems.

The next speaker to be introduced was Louis P. Shannon, public relations department, E. I. du Pont de Nemours, Inc. whose title was *The Value of Research Efforts to Industry*. We can only report some of his more important comments.

Shannon said advanced technology keeps the prices of things down. The greater the advances in technology the more possible it will be for more people to have more things at lower cost.

Shannon discussed applied research. In his company, there is no such thing as perfection. Periodically, all things are critically re-examined or cross-examined to assure better and lower cost products.

In fundamental research the work must be done by people who want to do it. The researcher must be obsessed with pursuance of the subject and dedicate himself in full time capacity.

The speaker explained that Du Pont employs 90,000 people and spends $3 million annually in research. Of each sales dollar, 3c is ploughed back into research.

Two Speakers at the Photocomposition Meeting. Research and Engineering Council, Benjamin Franklin Hotel, Philadelphia, May 17. At left is Louis Rossetto, assistant vice president, Mergenthaler Linotype Co. At right is Carl Sorenson, general sales manager, Lanston Industries, Inc.

Some of the Officers, Research and Engineering Council—Left to right, they are: First Vice Pres. George H. Cornelius, jr., Cornelius Printing Co., Indianapolis, Ind.; President Felton Colwell, The Colwell Press, Minneapolis, Minn.; Immediate Past Pres. Samuel F. Chernoble, The Comet Press, New York, N. Y.; Treasurer W. R. Spiller, vice president-engineering, Harris-Seybold Co. Not present were: Second Vice Pres. Alan S. Holliday, The Craftsman Press, Kutztown, Pa., and Secretary C. L. Jewett, Minnesota Mining & Mfg. Co.

"We know that research pays," said Dr. Shannon, "but we can't tell when it will pay. In this connection there are many discouragements. Patience is also required." He cited examples of research work by stating that development of nylon took 11 yrs. at an expenditure of $27 million.

Dr. Shannon commented upon the large sums of money and the attention paid to underprivileged delinquents. "Let's do something for the bright child," he suggested in pursuing the subject.

During the question and answer period immediately following Dr. Shannon's address, he was asked a number of questions. One of these was related to securing graduates from engineering schools for entrance into the Graphic Arts industry. The intimation was that Du Pont and

Du Pont Photo Products Department Announces Presensitized Plastic Relief Plate Development

Du Pont Photo Products Dept., E. I. du Pont de Nemours & Co., Wilmington, Del., announced substantial progress has been made toward development of a pre-sensitized, lightweight, flexible plastic relief printing plate. The plate is expected to have potentially wide use in the letterpress field. Announcement was made at the annual meeting of the Research and Engineering Council, Hotel Benjamin Franklin, Philadelphia, May 16.

After exposure through a high contrast photographic negative and washing in a simple water solution, the photopolymer printing plate is ready for use. The image is formed by a chemical change in the light-sensitive plastic during the exposure. Unexposed areas are then washed out, leaving a relief of up to 0.040 in.

The company said it appears likely that field testing of these new plates will begin during 1957 and that commercial quantities should be available during 1959.

The plate may be affixed to metal, synthetic resin or polymer base. Halftone and line work plates may be produced by the new method.

other large manufacturing organizations "grab off" all available graduates. Dr. Shannon replied there is no secret with respect to how these boys are obtained. A Du Pont representative takes the boys and develops them to suit the purposes of the company. His advice was: "Just select a bright boy the same as we do and start training him for your purposes."

Panel Analyzes Color Printing

At the Friday morning, May 17 session of the Research and Engineering Council's Philadelphia meeting, at Hotel Benjamin Franklin, George Beck, chairman of the board and treasurer of the Beck Engraving Co., Philadelphia, served as moderator at the meeting which was devoted to color printing.

An imposing panel consisting of nine authorities in their respective fields, each spoke on some phase of color printing.

The panel consisted of the following:

George B. Dearnley, vice president of McCann-Erikson, Inc., advertising agency, who spoke on *Competition.*

Separations by the Time-Life Color Scanner, by Carl Bartel, scanner division, Printing Developments, Inc., N. Y., N. Y.

The subject of *Masking Separations* was covered by two speakers. *Photoengraving* was discussed by Arnold E. Rogers, president Rogers Engraving Co., Inc., Philadelphia; *Masking Separations in Offset* was discussed by Milton Mild, superintendent of litho arts department, Western Printing and Lithographing Co., St. Louis, Mo.

Problems in Stepping-up to Four-Color Presswork both in offset and letterpress, were discussed by two people:

For Offset, Walter A. Goldsmith, vice president, Edward Stern and Co., Inc., Philadelphia; by Letterpress, Robert D. Davis, vice president, Davis, Delaney, Inc., New York, N. Y.

On the subject of *Standardized Lighting for Color Appraisal,* Warren B. Reese, vice president, Macbeth Daylighting Corp. and Philip E. Tobias, director of research, Edward Stern and Co., Inc., Philadelphia, discussed this subject.

The subject of *Ink* was discussed by David M. Kirkpatrick, manager, Philadelphia sales laboratory, Fred'k H. Levey Co.

William R. Maull, director of sales service, The Mead Corporation, Chillicothe, O., discussed *Paper* as related to color printing.

George Dearnley's address was statistical in nature. He gave considerable amount of facts and figures related to the printing and publishing industries. He stated that by 1960 about $220 million will be spent for advertising in magazines. He observed that more magazines are read in homes with television than in those that do not have television. The packaging industry is a great growing business. The carton and box field grew 10% during the past six years.

Dearnley observed there is a growing need for lower costs and higher quality in printing production. Another observation was that many newspaper composing rooms are operated the same as they were 30 years ago.

With respect to manpower in the advertising agency field, Dearnley stated his company (McCann-Erickson) now maintains two training courses for executives so that his organization will be continuously supplied with competent people. He urged Graphic Arts industry to advertise. Only a few printing and publishing plants are doing so now.

Time-Life Color Scanner Progress

Carl Bartel reviewed development of the Time-Life scanner for producing process color separations. He stated that more than 5000 sets of separations had been produced. At the present time, color separation service is afforded in Stamford, Conn., Chicago and San Francisco, California.

The Time-Life scanner produces all four negatives in separated form simultaneously.

There are two types of negatives available—500 and 1000 lines per inch. The 500-line separations are for not more than three times reproduction. The 1000-line separations are for enlargements above that figure. Approx. 1¼ hr. is required for production of an 8 in. by 10 in. size set of negatives.

In his concluding remarks, Bartel stated the marketing policy of the scanner will be for service only. None of the equipments are for sale.

Masking for Color

Arnold Rogers in speaking on *Masking* and *Masking Techniques* said that masking is a tool to be used in high fidelity color reproduction. However, masking can be made to do only a portion of complex color correction. Good masking makes the job easier for the color etcher. All color work, no matter by what process, is improved by good masking.

He commented that his firm had recently installed two Roloc machines for color separation work. The Kodak register pin system is used and film with polystyrene base is used.

In his concluding remarks, Rogers suggested that standardization of color masking methods be evolved for the entire industry. He also stressed analysis of color copy before proceeding with the work.

Milton Mild discussed the approach to color separation in the lithographic field. His firm has standardized on 8 in. by 10 in. separations. Due to improved techniques, his firm is now able to produce 35 sets of separations in one shift.

Administration Most Important

In going to four color offset printing, Walter Goldsmith stated that at

(*Continued on Page* 115)

Speaker Panel at R&EC Materials Handling Session—Charles W. Pitkin, vice president-manufacturing, Doubleday & Co., Inc.; Peter B. de Florez, The de Florez Co.; A. Mather Reed, converting superintendent, Finch & Pruyn Paper Co. Samuel G. Yulke, S. G. Yulke Co., materials handling consultants, was not present when picture was taken.

Research & Engineering Council Executive Committee

Lee Augustine, The Printing Machinery Co., 436 Commercial Sq., Cincinnati 2, O.
Gordon S. Barrett, Baker, Jones, Hausauer, Inc., 45-51 Carroll St., Buffalo 3, N. Y.
William Baumrucker, jr., Photon, Inc., 58 Charles St., Cambridge 41, Mass.
George D. Beck, Beck Engraving Co., Inc., 7th and Sansom Sts., Philadelphia.
H. R. Behr, Cline Electric Mfg. Co., 3405 West 47th St., Chicago 32.
Frank M. Bitetto, The Reader's Digest Assoc., Inc., Pleasantville, N. Y.
Hon. Raymond Blattenberger, U. S. Public Printer, U. S. Government Printing Office, Washington, D. C.
C. W. Brown, (Rep. National Editorial Association), The Enterprise Printing Co., Oconomowoc, Wis.
Kenneth R. Burchard, (Rep. Intl. Assoc. Printing House Craftsmen, Inc.), Carnegie Institute of Technology School of Printing Management, Pittsburgh, Pa.
Samuel F. Chernoble, The Comet Press, Inc., 200 Varick St., New York 14, N. Y.
Felton Colwell, The Colwell Press, Inc., 501 S. Sixth St., Minneapolis 15, Minn.
Geo. H. Cornelius, jr., Cornelius Printing Co., 2457 E. Washington St., Indianapolis, Ind.
John H. Davis, jr., Judd & Detweiler, Inc., 1500 Eckington Pl., N.E., Washington 2, D. C.
Robert H. Downie, Marathon Corporation, Menasha, Wis.
Charles Edson, Kable Printing Co., 404 No. Wesley Ave., Mt. Morris, Ill.
G. L. Erikson, (Rep. Natl. Assoc. of Printing Ink Makers), Braden Sutphin Ink Co., 3800 Chester Ave., Cleveland.
C. M. Flint, Chas. T. Main, Inc., 80 Federal St., Boston 10.
Walter T. Flower, (Rep. Electrotypers & Stereotypers Assoc. N. Y.), Flower Steel Electrotype Co., Inc., 461 Eighth Ave., New York 1, N. Y.
Malcolm Frost, Book Manufacturers' Institute, Inc., 25 West 43rd St., New York 18, N. Y.
Wade E. Griswold, Lithographic Technical Foundation, 131 East 39th St., New York 16, N. Y.
William D. Hall, Folding Paper Box Assoc. of America, 222 West Adams St., Chicago 6.
T. Blair Hawkes, T. W. & C. B. Sheridan Co., 135 Lafayette St., New York 13, N. Y.
Fred P. Hofferth, American Book Co., 300 Pike St., Cincinnati 2, O.
Alan S. Holliday, Craftsmen, Inc., 307-11 Main St., Kutztown, Pa.
C. L. Jewett, Minnesota Mining & Mfg. Co., 900 Fauquier Ave., St. Paul 6, Minn.
Morris S. Kantrowitz, U. S. Government Printing Office, Washington 25, D. C.
W. A. Kindorf, jr., Woodward & Tiernan Printing Co., 1519 Tower Grove Ave., St. Louis 10, Mo.
Arthur N. Knol, W. F. Hall Printing Co., 4600 Diversey Avenue, Chicago 39.
Lawrence Kramer, McCall Corporation, McCall St., Dayton 1, O.
John L. Kronenberg, S. D. Warren Co., 89 Broad St., Boston 1.
Floyd C. Larson, Intl. Assoc. of Electrotypers and Stereotypers, Inc., 1058-59 Leader Bldg., Cleveland 14.
Paul Lyle, Western Printing and Litho. Co., 1220 Mound Ave., Racine, Wis.
Cyrus L. MacKinnon, American Newspaper Publishers Assoc. Research Institute, Inc., 140 So. Dearborn St., Chicago 3.
R. O. Page, Courier-Citizen Company, 165 Jackson St., Lowell, Mass.
J. Russell Parrish, Meredith Publishing Co., 1716 Locust St., Des Moines, Ia.
Henri E. Peyrebrune, Miehle Printing Press & Mfg. Co., 2011 W. Hastings St., Chicago.
Charles W. Pitkin, Doubleday & Co., Inc., 575 Madison Ave., New York 22, N. Y.
Ben R. Preston, Crescent Engraving Co., 344 N. Church St., Kalamazoo, Mich.
Gordon R. Rohde, The Reynolds & Reynolds Co., 800 Germantown St., Dayton 7, O.
Dr. Marvin C. Rogers, R. R. Donnelley & Sons Co., 350 East 22nd St., Chicago 16.
Louis Rossetto, Mergenthaler Linotype Co., Park Ave. and Ryerson St., Brooklyn 5, N. Y.
A. A. Saul, Miller Printing Machinery Co., 1101-1131 Reedsdale St., Pittsburgh 33, Pa.
George C. Schaefer, jr., Schaefer-Shepherd, Inc., 232 E. Fourth St., Los Angeles 13.
George Schlegel III, Schlegel Lithographing Corp., 374-380 Second Ave., New York 10, N. Y.
Frank J. Schreiber, American Photoengravers Assoc., 166 W. Van Buren St., Chicago 4.
David W. Schulkind, E. P. Lawson Co., Inc., 426 W. 33rd St., New York 1, N. Y.
Joseph Schwartz, Westcott & Thomson, Inc., 1027 Arch St., Philadelphia 5.
W. R. Spiller, Harris-Seybold Company, 4510 East 71st St., Cleveland 5.
Vernon R. Spitaleri, Knight Newspapers, Inc. (c/o *The Miami Herald*), 200 So. Miami Ave., Miami 30, Fla.
Gilbert Stevens, Minnesota & Ontario Paper Co., 500 Investors Bldg., Minneapolis 2, Minn.
W. E. Switzer, Intl. Typographic Composition Assoc., 1015 Chestnut St., Philadelphia 7.
Bernhard J. Taymans, Printing Industry of America, 5728 Connecticut Ave. N.W., Washington, D.C.
C. Howard Thomas (Rep. Printing Industry of America), National Publishing Co., 239 South American St., Philadelphia.
E. J. Triebe, Kingsport Press, Inc., Press and Roller Sts., Kingsport, Tenn.
Dr. William H. Vinton, E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.
Dr. William C. Walker, West Virginia Pulp and Paper Co., Williamsburg, Pa.
J. Homer Winkler, Battelle Memorial Institute, 505 King Ave., Columbus 1, O.

What's New In the Graphic Arts

There was a double barreled subject at the Thursday afternoon, May 16 session, of the Philadelphia Research and Engineering Council meeting. Council Secy. Alan S. Holliday, director of research, Hughes Corporation, reported on *New Developments in the Graphic Arts*. C. M. (Larry) Flint, consultant, Chas. T. Main, Inc., discussed with panel members *What's Needed in the Graphic Arts*.

Alan Holliday presented a verbal summary of a considerable number of research projects which had either been completed, or about to be completed, or were encouraging in reported results.

Springdale Laboratories

Springdale Laboratories (Time, Inc.), Springdale, Conn., reported on magazine printing press developments, high speed stitchers, Time-Life Scanner, color proofing method, and the new letterpress nylon printing plate which is reported as not available yet (see *Printing Equipment Engineer*, page 57, this issue for report on nylon plates).

Flexible Plastic Printing Plates

The du Pont Photoproducts Dept. announced substantial progress toward development of a presensitized lightweight flexible plastic printing plate for the letterpress field (see page 61, this issue of *Printing Equipment Engineer*).

Automatic Character Sensing at IMR

Intelligent Machines Research Corp. reported that its Analyzing Reader can be built to read typed page copy for automatic typesetting purposes. The proposed machine, could demonstrate the feasibility of cutting (punching) Teletypesetter or Monotype tape directly from copy prepared under reasonably well controlled conditions. Indications are that such an Analyzing Reader could perforate six level Teletypesetter tape at 60 characters per sec.

Photographic Text Typesetter

American Type Founders, Inc., has developed a typesetter for the photographic composition of text matter. It is a small compact machine. Corrections can be made easily and quickly. Marketing plans are not available at present.

Vinylite Mold Treating Machine And High Speed Web Press Jogger

The Conde Nast Press, Greenwich, Conn., through Gen. Mgr. Joseph Chanko, reported two developments. One of these is a machine on test for cleaning, sensitizing, and silver spraying vinylite molds for electrotyping. It is expected the machine will produce one vinylite per min. and will save one or two men in the operation. Also, under test in the Conde Nast Press plant is an automatic jogger for high speed web presses to deliver jogged, stacked, counted, and compressed signatures in lifts of about 5 in. and for a varying number of pages from 4 to 32.

Fluorescent Ink Improvement Progress

Through Joseph L. Switzer, vice president and director of research, Switzer Brothers, Inc., was reported development of a fluorescent ink with pigment fine enough for use in letterpress ink and containing as high as possible concentration of color and fluorescence. After still further research, the company has succeeded in producing a daylight fluorescent ink for lithography. The inks are available in a number of colors. With respect to permanency, it was reported "The light fastness of these new inks can be rated as satisfactory for all indoor uses for many months. They are not recommended for outdoor displays."

Mottle in Curved Electros

B. W. Sargeant, superintendent, Printing Division, Webb Publishing Co., St. Paul, Minn., reported on mottle (orange peel) in curved electrotypes. Mottle on the surface of curved electros is caused by a number of slight irregularities in the printing face appearing as slight depressions of varying sizes. With respect to surface stretch, it appears that the degree of surface stretch is in direct relationship to mottle in similar plates. Gradual bending appears to have no appreciable effect on the results. With respect to the point at which the mottle developed, it appeared that this point was reached between 0.210 in. and 0.215 in. on a 43¼ in. curvature in the plate. In order to allow some margin of variance, reports Sargent, we have accepted 0.200 in. as the desired measure of max. thickness for standard production.

Increased Detail in Photograph

Dwin R. Craig, technical director, LogEtronics, Incorporated, Alexandria, Va., reported on the development of an instrument for automatically producing uniform exposures from each portion of every negative in one step, without relying on op-

(*Continued on Page* 90)

Better Performance from Present Methods Nearly Exhausted

(From address delivered by Moderator C. M. (Larry) Flint, consultant, Chas. T. Main, Inc., before *What's Needed in the Graphic Arts* session at Research and Engineering Council meeting, Philadelphia, May 1957.)

We all know what we want and need the most is a better product at lower cost, particularly in the reproduction of color. How to achieve that end is the fundamental question. Production managers and technicians have nearly exhausted the possibilities of obtaining better performance from the old established methods which depend to a great extent on the ability and craftsmanship of individuals. The Graphic Arts needs research results more than any other major industry because, as of this moment, in spite of the progress which is being made, we are technologically far behind other industries. As I review the progress which is being made, I can't help but wonder whether or not we are utilizing those new things which are being made available to us. We are notoriously slow to adopt new methods. Have you personally, or has your company, thoroughly investigated the economics, if any, to be gained from use of photocomposition, high speed engraving, the Eastman three color process, Teletypesetter, pre-sensitized plates and countless other improvements? Have you studied the problem from a purely technical and economic approach, or have you been influenced by daily problems which appear to be greatly enlarged if attempts are made to utilize new processes which may lower costs through greater productivity? Have you considered why and how others have overcome such problems, and are enjoying benefits of new products?

I believe one thing we need is an open mind with respect to new products, and a gentle but firm strangulation of the old traditions. Research needs a receptive audience if it is to flourish.

I believe we need a broad approach to the entire research problem, particularly when the research scientist contacts us for guidance based on our experience in a particular field. We should consider the problem from a general industry point of view and not from a personal point of view. I know of a large printing establishment which, over five years ago, sent its production manager on a tour of the United States to study Teletypesetter installations and to advise management with respect to possible application of the equipment within its own plant. This individual reported adversely for reasons of his own, but now, five years later, Teletypesetter is being installed. This is not an isolated case. There are hundreds of similar instances.

Two potential manufacturers of color separation devices, surveying the requirements of the industry, have been advised to produce as an end product a continuous tone separation rather than the final dot negative. This advice was given on the basis that the user would prefer to screen his own negative and control the final product through the etching and re-etching process. Does such advice look far enough into the future? It it for the best interests of the industry, or does it reflect personal likes or dislikes? Does it consider fully what the combination of directly screened separations and the no image loss characteristics of the Dow etching process could do for the cost of color? I predict that within the next year direct screened separations of comparatively low cost will be made available from at least two sources, and that equipment manufacturers will take a second look at the problem.

We need greater coordination of research activity, and less duplication of effort. It is in these areas that the Research and Engineering Council can best function.

Linofilm and Monophoto Explained

The concluding session of the 1957 Research and Engineering Council meeting, Philadelphia, was devoted to *Photocomposition*. Participants in the presentation were Louis Rossetto, assistant vice president, Mergenthaler Linotype Co., and Carl Sorenson, general sales manager, Lanston Industries, Inc.

Rossetto discussed the Linofilm which is currently being field tested.

The speaker stated that the idea of phototypesetting is not new, many patents having been issued 50 years ago. He then reviewed the many means for character presentation in photocomposition. He stated that in the Linofilm characters are presented in negative form on a glass plate. During composition there is no motion in the Linofilm optical system, that is, composition is accomplished through straight forward optics.

The machine is simple in operation (see *Printing Equipment Engineer*, May 1954, p. 29, and July 1956, p. 44.)

He stated that the Linofilm is primarily a two unit machine—one keyboard unit and one photographing unit. The equipment is tape operated. The tape can be edited, corrected, stored and re-run. A ratio of keyboard to photographic unit installations may not be one to one, but can be on the order of two or three keyboards to one photographing unit.

The photographic unit is completely automatic and is changeable at will for production of type images on film or paper. The sensitized film is carried in a cassette (lightproof film holder).

Corrections can be made on the keyboard, on the tape after keyboarding, or on the film. The correction cycle averages 15 sec. for line replacement.

A new machine called the Linofilm Composer will accept film and enlarge it by factor of six, or reduce it by factor of three. The film may be moved up or down at will. The operator works from a 1:1 layout.

Linofilm tape is 7⅞ in. wide and carries 15 channels across.

Rossetto explained the semi-automatic film corrector which carries a small automatic shear and the film welder.

Monophoto Equipment

Carl Sorenson discussed in detail the construction and operation of the Monophoto which consists of two units—a keyboard and a photographing unit. (See *Printing Equipment Engineer*, Nov. 1952, p. 32, and Apr. 1957, p. 42).

He stated a Monotype operator can compose any kind of composition without knowing whether or not the tape or ribbon is to be used on hot metal or photographic machines. The Monophoto equipment permits prime photography in original composition and corrected film.

Sorenson stated that the entire optical system is immobilized during the photographic operation. Type sizes range from 6 pt to 24 pt. The operating speed of the photographic unit is 12 characters per sec. For text work, Sorenson stated, a ratio of one keyboard unit to one photographic unit may be employed or two or three keyboard units may be installed with one photographic unit.

ANPA Mechanical Committee and Research Executives

J. HAROLD MINTUN
Committee Chairman and
Prod. Mgr., Pittsburgh *Press*

People apply all sorts of yardsticks to measure progress in industry. Some think of it as how quickly new ideas are accepted, while others gauge progress by the effectiveness of the coordinated effort placed behind new ideas. The coordinators and decision-makers of mechanical improvement in the newspaper printing industry are the members of the Mechanical Committee of the American Newspaper Publishers Assoc. These men, along with the research executives in this field, are the plotters of progress for the big and little daily newspapers. As a top-level team of plant executives they have toiled extra hours for the best interests of their counterparts in the newspaper mechanical field.

Under the able leadership of Chairman Mintun the group has worked on knotty problems concerned with composing room practices, etching techniques, stereotype procedures, ROP color and mechanization of mailrooms. And they will oversee the technical sessions of the ANPA Mechanical Conference to be held at the Morrison Hotel, Chicago, June 10-12. Another important function of the committee is to work in unison with the research executives of the industry for new and improved methods of newspaper reproduction.

The backgrounds of those on the opposite page are familiar to many in the ranks of newspaper mechanical operation. A familiar one, however, is missing this year. After 30 years service on the committee, John W. Park, research director, Chicago *Tribune*, has retired from this activity. A newcomer this year is James S. Copley who is president and general manager, San Diego (Calif.) *Union* and *Tribune*.

The collective record of these men speaks well for the industry they represent. We wish them well on behalf of those they serve in their continual effort to progress with America's future.

JAMES L. STOTT
Bus. Mgr., Richmond
(Va.) *Times-Dispatch*
and *News-Leader*

JAMES S. COPLEY
Pres. and Gen. Mgr.
San Diego (Calif.)
Union and *Tribune*

LEVEN T. DEPUTY
Mech. Supt., Dallas
(Tex.) *Morning News*

Chas. FREDERICKSON
Mech. Supt., Westchester County Publishers, Inc., N. Y.

HENRY H. GARLAND
Prod. Mgr., Pittsburgh
(Pa.) *Post-Gazette*

W. E. GIBBONS
Prod. Mgr., Portland
(Ore.) *Journal*

G. R. HUTCHINSON
Prod. Mgr., Los Angeles *Times-Mirror*

GEO. F. MARSHALL
Prod. Mgr., Portland
(Me.) *Press Herald*

JOS. E. McMULLEN
Prod. Mgr., Milwaukee *Journal*

HARRY SLOAN
Prod. Mgr., New York
(N.Y.) *Mirror*

W. W. SOUTHAM
Exec. Asst., Southam Co. Ltd., Montreal, Can.

E. R. WEISKITTEL
Pressroom Supt.,
Youngstown (O.)
Vindicator

ALLAN M. WOODS
Prod. Mgr., *Newsday*,
Garden City, N. Y.

RICHARD E. LEWIS
Mgr., ANPA Mechanical Dept., New York, N. Y.

FRANKLIN SCHURZ
Pres., ANPA Research Institute and Secy.-Treas., South Bend
(Ind.) *Tribune*

ROY W. PRINCE
Technical Research Director, ANPA Research Institute, Easton, Pa.

Reports of Scientific Research Given at TAGA's Philadelphia Meet

Plates and platemaking, color, ink, paper and lighting discussed • By EDWARD H. OWEN, Associate Editor

A report on relief printing plates made from photosensitive nylon, movies of ink misting taken with high speed cameras as it actually occurs, and reports of studies of color, ink and paper comprised the two-day program presented by Technical Assoc. of the Graphic Arts at its 9th Annual Meeting held at Benjamin Franklin Hotel, Philadelphia, May 13-15. Nearly 300 scientists and technicians of the industry were on hand to report their findings on a variety of subjects affecting the Graphic Arts.

Elected to the presidency of TAGA was Virgil A. Barta, technical director, Graphic Arts Div., Technicolor Corp., Burbank, Calif. Barta succeeds Robert E. Rossell, managing director, Research & Engineering Council, Washington, D. C. and heads a new slate of officers (see photo) elected for the 1957-58 term.

1958-59 TAGA Meetings

It was announced the 1958 TAGA meeting will be held in Los Angeles, June 23-23. The Beverly-Hilton Hotel has been tentatively engaged. The association next year will depart from its normal program to present a three-day meeting of technical sessions and a fourth day of plant visitations. The 1959 meeting will take place in Rochester, N. Y.

The Philadelphia meeting was planned by a local committee headed by Joseph W. Mazzaferri, Colorcraft Lithoplate Co. In addition to 19 papers presented at the four regular sessions, those in attendance were treated to a series of demonstrations on color performed by Dr. Isay Balinkin, University of Cincinnati.

The third day of the Philadelphia meeting was devoted to a number of tours of Graphic Arts plants in or near that city. Included were trips to Curtis Publishing Co.'s Sharon Hill plant, Typographic Service, Inc., Imperial Type Metal Co., Triangle Publications, Philadelphia *Evening Bulletin*, and the ANPA Research Institute Laboratory, Easton, Pa.

Chairmen of the various sessions at the TAGA meeting were: C. A. Horton, Eastman Kodak Co.; Roy W. Prince, ANPA Research Institute Laboratory; William C. Walker, West Virginia Pulp & Paper Co.; and Robert H. Downie Marathon Corporation, Menasha, Wis.

A report on the new nylon relief printing plate proved to be an excellent opener for TAGA's technical program. This was given by Robert M. Leekley, Springdale Laboratories Div., Time Inc. (The story about the nylon plate appears on page 57.)

New officers of TAGA are, left to right, seated: B. L. Sites, chief research engineer, Miehle Printing Press & Mfg. Co., Chicago, secretary-treasurer; Philip E. Tobias, research director, Edw. Stern & Co., Philadelphia, second vice president; Virgil A. Barta, technical director, Graphic Arts Div., Technicolor Corp., Burbank, Calif., president; Frank Preucil, research staff, Lithographic Technical Foundation, Chicago, first vice president. Standing: Robert E. Rossell, managing director, Research & Engineering Council, Washington, D. C. director; William T. Reid, Battelle Memorial Institute, Columbus, O., director. Not present was Robert M. Leekley, Springdale Laboratories Div., Time Inc., Springdale, Conn., elected a director.

Combination Plate Etching

Combination plate etching was the topic of a talk by John A. Easley, Dow Chemical Co., who acknowledged that consistency has heretofore been a problem in obtaining satisfactory combination plates. He was optimistic in his report on the development of a new bath which etches coarse screen combination plates. The new method uses substantially the same chemicals, in different proportions, and the same etching machines as the original Dow Etch Line and Halftone Processes. Also, the same general operational procedures are used. Easley claimed favorable results from most of more than 140 users of the process.

The new bath consists of the following: Nitric acid, 42° Be', 12.0% (by volume); dioctyl sodium sulfosuccinate, 0.7% (by wt. as 75% by strength); diethylbenzene, 3.0% (by volume); sodium sulfate, 0.03% (by wt.); water, balance.

One combination bath of a nominal 130 liter volume, according to the speaker, will etch some 10 to 20 average production combination size flats to 0.016 in. depth. Etching time ranges from 9 to 13 min., depending upon strength of bath.

Platemaking Research

Polyvinyl alcohol (PVA) photoresists came into use in this country because of the need for a material that was usable with magnesium plates in the Dow etching process. S. F. Darling, Institute of Paper Chemistry, delivered a paper on this subject. The resist consists of a water solution of low viscosity PVA and a preservative. It is sensitized, in the usual way, with ammonium dichromate.

The shelf life of the sensitized resist is short, he stated, compared to that of cold-top enamels. After exposure the print is developed in water, or in a water solution of a dye which makes visual observation of the image more convenient. The print may or may not be further insolubilized by a fixing step, prior to drying and burning in. Only a moderate temperature is required for burning in and, hence, the resist may be used on zinc or magnesium plates.

Darling presented the results of an investigation of the stability of sensitized PVA solutions, the effect of dichromate-PVA ratio on photosensi-

tivity, the mechanism of development and fixation of prints, the effect of film thickness on photosensitivity and on the integrity of the film in the Dow etching bath, and factors affecting the useful life of sensitized magnesium plates. He concluded that PVA film thicknesses of 2 microns or more are necessary to provide adequate resistance to the action of the Dow etching bath. Films thicker than this are not recommended because they need increased exposure. The speaker added the new polyvinyl alcohol photoresist is proving satisfactory in making photoengravings on magnesium by the Dow etch process.

It is a well known fact that all light sensitive lithographic coatings tend to stale with age in the absence of light, said Grant C. Beutner, R. B. & P. Chemical & Supply Inc., in a talk on *The Kinetics of the Dark Reaction in Bichromated Colloids*. This staling rate, he said, is affected to a greater or lesser extent depending upon the type of sensitizer used, the basic formulation of the coating, and the temperature and relative humidity. The process of staling can be more accurately defined as the dark reaction because it represents a rather slow chemical reaction whose ultimate effect is the tanning of the colloid by the bichromate or other sensitizer. Beutner contended that the rate of the dark reaction is influenced by temperature and relative humidity because the rate is accelerated enormously by increases in both these factors.

Another speaker, John Rheinfrank, Battelle Memorial Institute, Columbus, O., described a method of reproducing by lithographic means directly from Xerographic plates.

Color Differences

A method of calculating how accurately small color differences between two colors in an original will be reproduced was desecribed by J. A. C. Yule of Eastman Kodak's research laboratories. In order to do this, he said, the following data are required: (1) Measurements of the color densities of the individual inks; (2) Information as to the way in which the multicolor print is related to the individual ink images; (3) The tone rendering of the individual ink images; (4) The characteristics of any masking method which is a part of the reproduction process.

Yule presented evidence to show that straight line masks cause overcorrection of the shadows in a three-color process, owing to both additivity and proportionality failure. The effect of the black printer in destroying color differentiation in the shadows was also shown.

The speaker believed the theory of color differentiation in color reproduction developed by Eastman's study provides a useful tool for evaluating color reproduction methods, and for understanding some of the causes of lifeless-looking reproductions. It is possible, he added, it may lead directly to improved color correction methods. Yule also thinks the improved understanding of some color reproduction phenomena, especially those connected with the black printer, should prove helpful.

A better understanding of lithographic color reproduction problems has been one of the recent projects of Lithographic Technical Foundation. Results of the project, which amounted to a survey of process color inks used in lithography, were reported by Frank Preucil of LTF's research staff. One of the principal revelations made by Preucil was that about three-fourths of the process reproductions represented in the survey could not be completely color corrected by simple straightforward masking methods. This, he said, was due to high hue error, unbalanced correction factors, additivity failure, poor trapping, and proportionality differences.

Preucil told how a 21 step test color strip printed on production runs by 170 single color, two-color and four-color presses was studied for differences which can affect requirements of color correction. Hue, purity, gray balance, trapping, additivity, proportionality and other factors were measured as variables to be considered in relating masking to color separation.

The speaker suggested that better selection of ink hues and more complete understanding of possible press controls should not only deliver better color quality but will permit streamlining of correction methods. He also revealed some multicolor press runs have shown purer, more stable tints and less hue shift than typical single color press performance. He called for fuller control of these conditions as a means of further upgrading litho color quality.

Sensitometric Control for ROP Color was the title of a paper delivered by Robert H. Dumke, Milwaukee (Wis.) *Journal*. He explained the application of sensitometric control for the determination of exposures, developing time, holder position on one-shot cameras, filter factors on direct separations or transparencies, masking, and printing color separation negatives on resisto-based bromide paper.

In another talk, F. R. Clapper, Eastman Kodak Co., discussed the basic characteristics desirable in separation negatives for color reproduction work. A technique of flashing the separation negatives has been worked out, he said, with which these characteristics can be obtained in practice. He claimed this controlled flash technique actually simplifies the

(*Continued on Page* 122)

Among Those Attending TAGA

(All names read from left to right)

1—Robert Dumke, Milwaukee (Wis.) *Journal;* E. P. Kirsopp and Harry A. Mallon, both of E. I. du Pont de Nemours & Co.

2—Edw. Duffie, Doubleday Co., New York, N. Y.; A. C. Zettlemoyer, Lehigh University, Bethlehem, Pa.; Jos. G. Curado, Sun Chemical Corp.

3—I. T. Pennington, Engineer Research Div., Fort Belvoir, Va.; D. L. Fauser, Harris-Seybold Co.

4—C. W. Simonds, and Les E. Goda both of Eastman Kodak Co.; H. P. Paschel, New York, N. Y.; A. E. Rogers, Rogers Engraving Co., Long Island City, N. Y.

5—A. Wightman, Dayton Rubber Co.; Carl B. Harris, Sinclair & Valentine; P. H. Holsing, Holsing Litho Co., Canton, O.

Carnegie Seminar Speakers Feel Work Simplification Practices Needed

Methods, research endorsed • By WILLIAM D. SIEGFRIED, Asst. to Pres., Technical Charts, Inc., Buffalo, N. Y.

Responsibility for inadequate productivity was placed on the shoulders of management by speakers at Carnegie Tech as they gave resounding endorsement to work simplification and methods improvement practices to cut costs, improve quality and encourage management-employee harmony. They were addressing the 15th annual Printing Management Seminar and Conference for Industry Sponsors, held April 11-13 at Carnegie Institute of Technology, Pittsburgh, Pa. Some 225 Graphic Arts representatives were in attendance.

No Revolutionary Changes

In a sparkling talk, Vernon R. Spitaleri, research director, Knight Newspapers, Inc., Miami, Fla., said: "Too many managers are laboring under serious delusions that the push button plant is just around the corner and that a little more intelligently applied research will bring us to this Utopia. Realistic appraisal of the facts would indicate nothing could be further from the truth. The inherent nature of our industry rules out any revolutionary changes."

Spitaleri stressed the need for men with technical backgrounds to bring the developments of modern engineering and science into the plant. He saw two roads open in Graphic Arts research. One, improvement of the conventional; the other involving a penetrating search of present production methods in the light of the wide range of present day knowledge. He said the second holds greater promise despite being far more difficult to sell to Graphic Arts management, because it is easier to sell in terms of substantial support.

Considering the Graphic Arts as perhaps the most tradition bound and opinionated of all industries, Spitaleri said, a good plan to start in any department is to question everything until you have a collection of proven facts. "Research dollars are pitifully few in the Graphic Arts as it is, and unfortunately far too many of those dollars have been dissipated on the basis of opinion rather than fact."

The speaker went on to discuss current developments in the industry. He gave photocomposition star billing for newspaper work stating that an outlay of $25,000 on a two machine, 30-man department was equivalent to a hot metal department requiring $250,000 capital outlay and 56 men.

Newspaper Engravers in Lead

In high speed engraving, Spitaleri said, the newspapers are ahead of commercial engravers. He characterized engraving as the most backward phase of the business and said the principal reason letterpress was "sick" was because of "the hidebound, tradition-bound refusal of the engravers to look beyond the end of their noses."

The speaker pointed out that "pretty good quality" process color is being printed every day in newspapers, "even in Podunk," all over the United States except in New York City. Further progress here is now a managerial problem, not a problem of research and development. "We can now produce multiple sets of process color plates—up to 16 or 20—cheaper than we can stereotype, rout and nickel to put on our presses, at better quality. The problem now is to properly curve and mount them for the press."

Turning to the field of industrial relations, Spitaleri said: "There is no greater or more urgent problem facing industry today than that of establishing sound cooperative relations between workers and management. There must be complete mutual understanding on both sides to insure continued progress and ultimate success. This is the essence of industrial relations and should not in any way be confused with labor relations.

"We must realize that the most vital element, costwise, and to the sound future of the Graphic Arts, is not to the largest degree in the direction of radically new methods but in at least the proper use of present methods available to us now in our daily work.

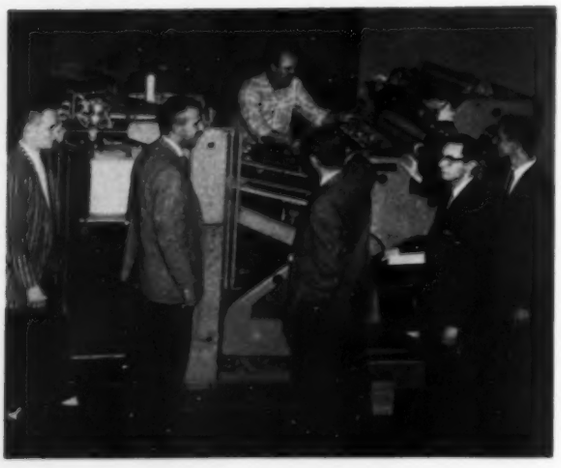
"The greatest problem and the biggest bottleneck confronting mechanical production executives is basic worker and union attitudes which prevent us even coming close to achieving the production potentials available to us in present material and equipment.

"Virtually every piece of equipment in our plants today has a production capacity far beyond that actually being obtained from it by the personnel presently operating that equipment. This fact itself would indicate that our most serious problems lie in the field of men—the human element, not the push button."

Work Simplification Techniques

Work simplification was the discussion topic of Allen H. Mogensen, director, Work Simplification Conferences. How do you use it to increase productivity? Mogensen suggests both automation and "humanation." Automation can be applied to both plant and office, although complete automation for the small plant is unlikely in the near future because of the cost. Buying an electronic computer is not the first step, said he. These are often bought for prestige rather than utility and he characterized them as "the president's jukebox." Rather than start by adding equipment, Mogensen advocates as step one asking of any procedure currently being followed, "Why the hell do you do it?"

"Humanation," which he feels may well increase productivity more than automation, is a matter of how to get results through people. He sees three methods of doing this: Tell them, sell them, or consult with them. The old approach was a straight



Carnegie Students Tour—Some 25 Printing students from the Carnegie Institute of Technology, Pittsburgh, visited major printing plants and Graphic Arts manufacturers as guests of Miehle Printing Press and Mfg. Co. and Ideal Roller Mfg. Co. in Chicago recently. The group's itinerary included plants of Ideal, Rand McNally, Brock & Rankin, Vogue-Wright Studios, Miehle, Lithographic Technical Foundation and the Chicago Club of Printing House Craftsmen.

"tell them" on a like it or leave it basis. Now many businesses are attempting to "sell them" with economic lessons. Scientific management is trying to get away from employer-union antagonisms through "consulting with them."

To take intelligent action in this direction three things are needed: Desire to solve the problem, ability, and capacity for handling the human relations involved.

A panel of printers who have used Mogensen's program—Frank G. Horton, Engineering, Research and Development Div., R. R. Donnelley & Sons, Chicago, moderator; George Shearer, supervisor of industrial engineering, Standard Register Co., Dayton, O. and Donald E. Sommer, vice president, Rudisill & Co., Lancaster, Pa. followed up Mogensen's talk by answering questions about their experiences with work simplification programs.

"Where does the work simplification idea start in a plant and what is the opening wedge when supervisors are autonomous in their own eyes?" the panel was asked. They agreed on starting with top management and working down. Horton pointed out that resistance was not unanimous. He suggested working hard with an interested foreman to develop a "success story." When that is achieved, they will come to you. The ultimate idea is to get the factory people to ask the staff for help, but, he stressed, this can't be left to chance.

"How do you keep men employed when you undertake a work simplification program?" another printer inquired. Sommer and Shearer said they had no such problem as there was always other work. Horton added that work would be required to fill the gap and recommended introduction of the program be coordinated with the sales department. Mogensen prescribed as a last resort finding him a job in another plant.

"Does a small proportion of the people contribute a major proportion of the ideas?" Shearer replied that those who have had work simplification education made more and better suggestions.

"Are there usually cash awards for work simplification ideas?'" Mogensen was asked. "Some plants make them, some don't. Ideas come from two sources, the lone wolf and the group, and you must have both. There is a tendency away from awards," he said, "but if you already have awards, don't take them away."

"How do you carry out work simplification education?" Shearer replied that Standard Register gave six hours of instruction in problem solving, all on company time, emphasizing the theme, "work smarter, not harder."

Cold Composition Systems

Gordon R. Ewing, Engineering, Research and Development Div., R. R. Donnelley & Sons, Chicago, gave a lucid survey of a wide variety of cold composition techniques. Cold composition, to be worthwhile, must result in lower costs. It will cause changes in the composing room, but Ewing warned against making a change just for the sake of change. He briefly described the photolettering, electric typewriters and phototypesetting machines on the present day market.

Ewing fears that concentration on the production of justified lines has resulted in ignoring the rest of composition work. A good photocomposition system must lower other costs too. He feels it unlikely that any one method will solve all needs, and he urges the inclusion of a plan for low cost transition to photocomposition.

Spitaleri was invited to the speakers' table for comment. He stated his experience had been that cold composition had a number of advantages on complex matter but none on straight matter. Most of the potential is beyond the keyboard in make-up where you are handling 50 sheets rather than 700 pieces of metal.

Another question was whether the regular Monotype keyboard could be used or adapted for Monofilm. Ewing said it could, but that a special tape must be used. Paul H. Duensing, Typographic Service Co., Indianapolis, Ind., reported that on the newest Monotype keyboard machines the operator setting straight matter does not have to know in advance whether it is for hot or cold composition. He also mentioned a new device which would automatically break for color by running the tape twice through the photographic unit.

Paul Doebler, Mergenthaler Linotype Co., stated that the Linofilm composer was being worked on to handle the problem of composition savings Spitaleri had raised. The composer is equipped with a glass viewer and dials which can be manipulated to place type where it's wanted in the size wanted, then you simply press the exposure button.

Human Engineering

Victor L. Short president, Institute of Human Science, Chicago, spoke on *Human Engineering*. He criticized the failure of many businesses to develop replacements for management and blamed in part the system of promoting by seniority rather than by merit. He suggested self-examination as the first step in improving conditions.

One of the tragedies of business, said Short, is that so many people capable of high position have missed by the breadth of a hair. A knowledge of this narrow difference between success and failure is a good place for beginning where most people leave off. Success is a matter of looking ahead and planning, preparing in advance for opportunities. Shake the idea of "my day will come." The man who is prepared is the one who will arrive.

Another problem to be licked is "alibitis." There are two groups: Those who use alibis and those who get things done. Many minds start

(*Continued on Page* 131)

Tips on Copperizing Deep-Etch Images on Aluminum

(Prepared by Lithographic Technical Foundation for Research Progress Report No. 38.)

Many platemakers wonder how you determine when an aluminum deep-etched image is properly copperized, that is, by the length of time the solution is on the plate or by the color of the image.

The Lithographic Technical Foundation has found this: The most important thing is that the metal in the image areas be prepared for and be receptive to the copper plating reactions. Different deep-etching solutions appear to leave different deposits in the image. These vary in their effect on the copper deposited in the image. If the plate is under-developed, a gum film remains in the image which interferes with the chemical reaction. Some commercial plate washes leave oily films or other residues in the image. If not removed by a good, oil-free alcohol used for the final wash, the oil prevents good plating with the copperizing solution.

Properly done under good conditions, the copper plate builds up slowly. It should take about 1 min. before the first signs of a copper deposit appear. After 1 to 2 min., the image should have a faded rose color. *This is what you want.* Further plating continues to build up the copper until it takes on a bright, new penny color. Such a film is too thick for best results.

Copper-plating solutions are very sensitive to the amount of water in them. Sometimes, during periods of high relative humidity, the alcohol in the solution will pick up the moisture from the air. The solution then becomes too active. When it reacts with the plate metal, the copper comes out of solution too fast. It makes a black powdery deposit that doesn't stick and comes off after the plate has been on the press for a while.

To prevent this, LTF suggests that you flood the solution on the plate when the relative humidity is high. Use two or three times as much as you ordinarily do. The solution will still pick up moisture from the air but the relative amount or the per cent of water to copper salt will be enough less to prevent over-activity and poor plating.

Run-of-Paper **Color** *For Daily Newspapers*

General considerations, initial conception, participation by all related departments, equipment requirements and the finished product will be discussed progressively

By VERNON R. SPITALERI*
**Research Director, Knight Newspapers, Inc.*

Part VII—Pressroom

(Sec. 2)

Color Decks or Stack

In 1953 the Milwaukee (Wis.) *Journal,* in cooperation with R. Hoe & Co., developed a new type of color press arrangement shown schematically in Fig. 25. The objective was maximum flexibility using minimum floor space. This arrangement does not affect the actual press capacity represented by the black and white units located on the pressroom floor level, and in this case the color deck is arranged with a seven unit press line affording a maximum capacity of 56 pages straight with full color. Formerly, using black and white units for full color, the press capacity on straight runs was reduced to 40 pages. Joseph E. McMullen, production manager of the *Journal* reports the following features and advantages of this arrangement:

(1) Color immediately available at all times. Running color on the black and white units called for time-consuming cleanup from black to color and back again.

(2) Maximum page capacity of the press is available when running full color.

(3) Color can always be run on second impression if desired although first impression can be used and full color can be run on both sides of the same web.

(4) Full color with black (four impressions) can be run in the overhead color unit with a fifth impression available below for a second black plate covering all editorial and advertising black not included in the full color ad or editorial subject.

If three color process is run there is an additional impression available for off-standard spot color on another web making available four additional pages in one color and black.

(5) All color impressions are located close together minimizing register dificulties and permitting initial registration on slow motion.

(6) Standard process inks are delivered to the ink motion distributing pumps automatically.

(7) A waist-high console (See Fig. 26) conveniently near the folder of each press carries all color ink controls for that particular press.

(8) Bay windows provide maximum flexibility for positioning of color pages. A minimum amount of press cleanup and readjustment is involved.

(9) Improved ink distribution system and ink rail design reduce ink mist to a minimum.

(10) Although plating is done on different levels all plating is done from a standing position at waist level.

These represent a number of the special features incorporated with this new press design. In Fig. 27 is shown a one-man lift (manufactured by Allis-Chalmers, Milwaukee) used to transport men to and from all operating levels. This lift operates from the reel room to the color deck level.

11) All catwalks are light-

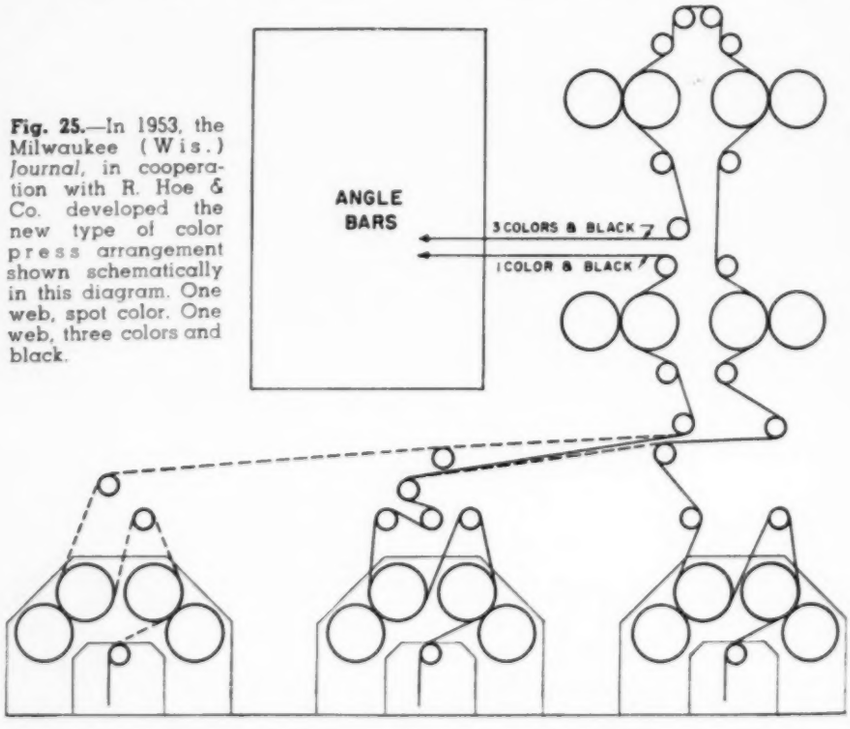
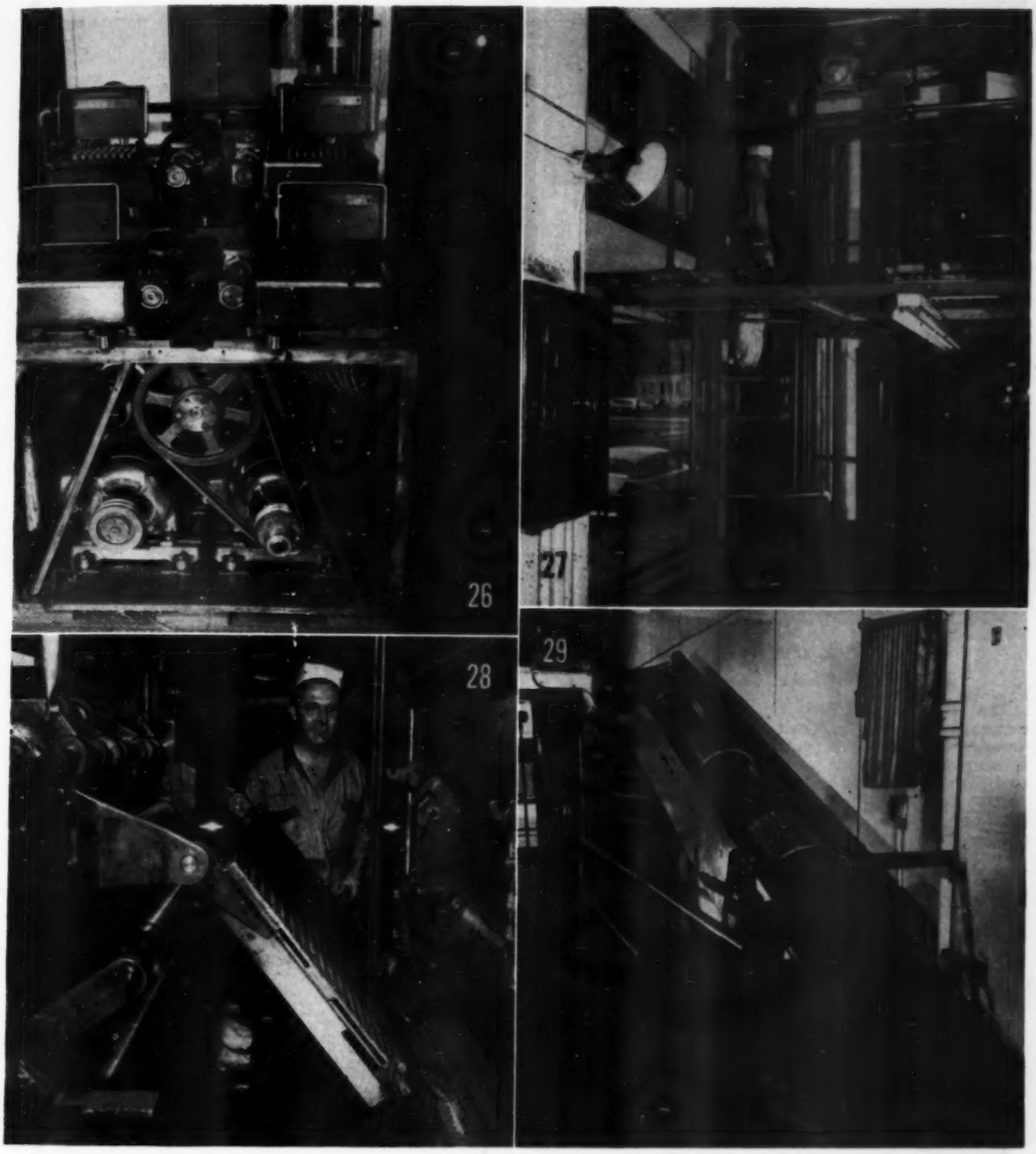


Fig. 25.—In 1953, the Milwaukee (Wis.) *Journal,* in cooperation with R. Hoe & Co. developed the new type of color press arrangement shown schematically in this diagram. One web, spot color. One web, three colors and black.



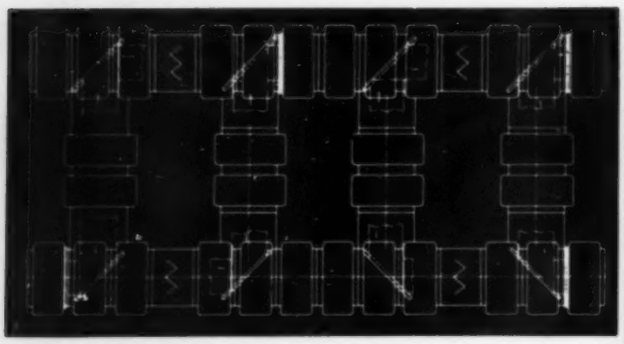
Some Features of Milwaukee (Wis.) *Journal* ROP Color Press

Fig. 26.—Ink controls for the Hoe press are located in the waist-high console near the folder on the operating level of the pressroom floor.

Fig. 27.—This one-man lift transports pressmen to and from all operating levels—réel room to color deck level. One might say its a three-floor elevator.

Fig. 28.—All catwalks are constructed of light weight magnesium.

Fig. 29.—A plate conveyor on second level platform (color deck) transports stereotype plates to this level and carries away used plates, delivering them to the regular discharge point on the pressroom floor.



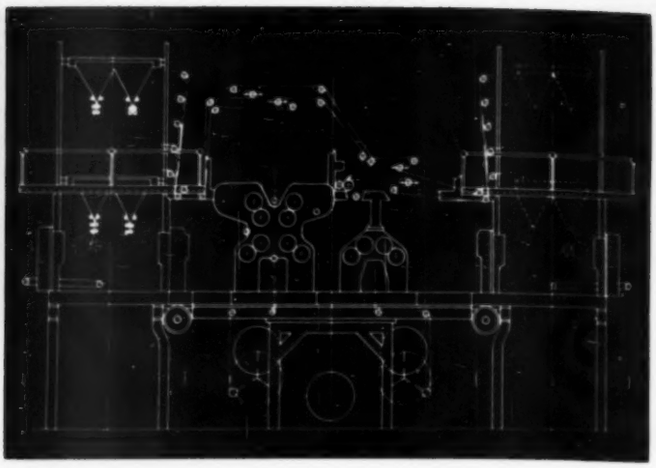


Fig. 30 (left) and Fig. 31 (right)

Figs. 30 and 31.—Presently being installed in the plant of the Buffalo (N. Y.) *News* by Wood Newspaper Machinery Corp. is a unique press arrangement. This consists of a complete four color press unit and one additional black press unit set at right angles between two regular press lines where all the black and white printing will be done. In Fig. 30, each rectangular block shown in this schematic diagram represents a complete printing press unit, either color or black and white. The diagram in Fig. 31 represents the reel relationship to the press units inserted at right angles to the press lines. This arrangement (the first of its kind) should be running the latter part of this year and will be watched closely by the entire newspaper printing industry at that time. On this press equipment, all color will be printed on second impression.

weight fabricated magnesium (See Fig. 28.

A plate conveyor installed on the second level platform (color deck) delivers new plates to this level and removes used plates, delivering them at the regular discharge point on the pressroom floor. (See Fig. 29).

Right Angle Color

The Buffalo (N.Y.) *News* is presently installing a unique press arrangement by Wood calling for a complete four color unit and in this instance one additional black unit to be installed at right angles between two regular press lines where all the black and white will be produced. (See Figs. 30 and 31). This unique arrangement (the first of its kind on modern presses) should be running the latter part of this year and will be watched closely by the entire industry at that time. William Keightley, mechanical superintendent of the *News*, anticipates the following advantages from this type of installation:

(1) All color will always be printed on second impression. After printing, the web can be inserted into either first or second impression position by turning it toward or away from the folder at the angle bar.

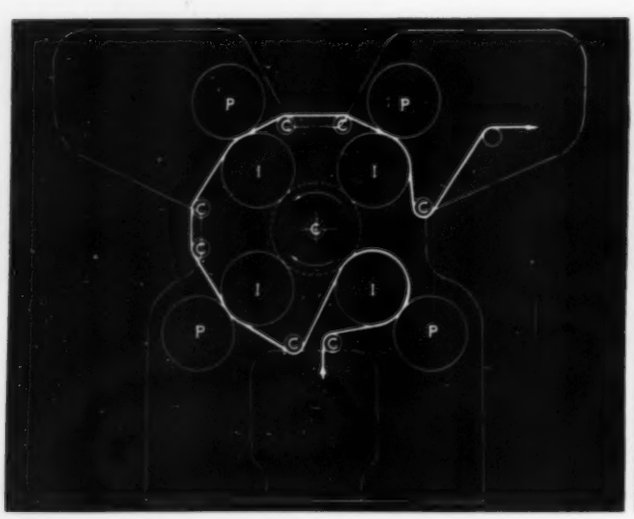
(2) All color impressions are located close together thereby minimizing registration problems.

(3) When confronted with the problem of established advertiser positions, maximum flexibility is desirable. This layout permits placing the initial color page in any position in the paper. The second color page can then be placed in any other position on the same side of the folder. This affords possible flexibility of well over 50% of the paper on the second color page. The third and fourth color pages on a straight run will necessarily be the companion pages of the first and second color pages.

(4) When using standard process color, ink fountains will not need to be cleaned since color will always be printed in the same location on the color units with positioning accomplished after the color web leaves the unit. Special spot colors can be used with portable fountains and will necessitate washup.

(5) Four of every six impressions involved with color can be

(*Continued on Page* 111)



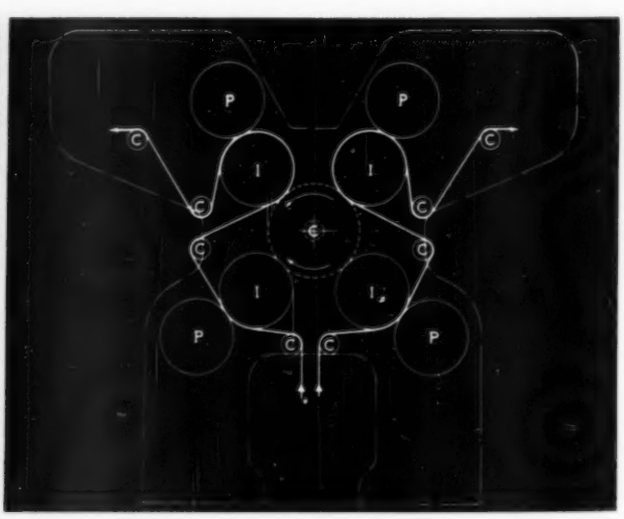


Fig. 32.—The basic Wood Metropolitan four color press unit can be used in many other types of arrangements as well as the right angle installation described for the Buffalo (N. Y.) *News*.

Fig. 33.—The basic Wood four color press unit can be operated as two black printing units. All printing cylinders are driven by one gear and are fully reversible.

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11. **POT PUMP SAFETIES**
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12. **DOWNSTROKE KNIFE WIPER**
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13. **RIGID CHANNEL ENTRANCE**
prevents matrix damage

14. **LOW-COST LINERS**
for fastest measure changes

15. **ADJUSTABLE POT PUMP SPRING**
assures solid slugs

16. **UNIVERSAL KNIFE BLOCK**
unmatched accuracy of slug trim

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faster assembly of special work

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sets big or little type smoothly

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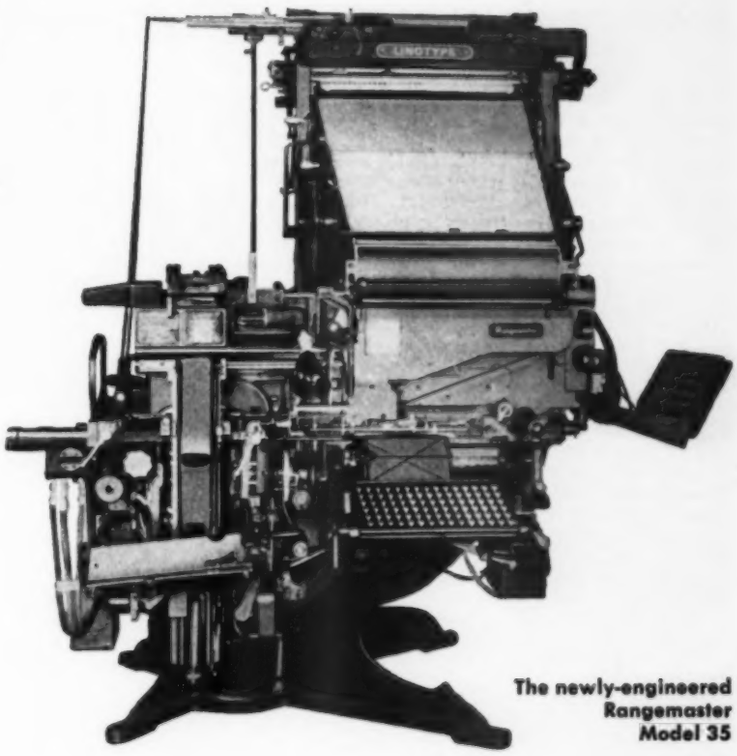
avoids mold, liner damage

20. **FINGER-TIP SHIFT**
easiest shift for mixing

21. **THERMO-BLO COOLER**
no over-heating of molds

22. **RIGID DISTRIBUTOR BOXES**
prevent matrix damage



The newly-engineered Rangemaster Model 35

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Technical Matters Are Discussed At National Litho Meeting

By RUSSELL B. WADDELL, Vice President of the Cleveland Club, and GEORGE SUTTON, Canton (O.) Club

At the convention of the National Assoc. of Litho Clubs in Chicago, May 2 to 4, J. Leonard Starkey, a member of the Dayton Litho Club, was elected President. Other new officers are: First vice president, Herman C. Goebel, Twin Cities Litho Club (St. Paul-Minneapolis); second vice president, Fred A. Fowler, Washington (D.C.) Litho Club; treasurer, Rae H. Goss, Chicago Litho Club.

About 250 delegates of the various Litho Clubs throughout the country (including about 75 wives) registered for the three day convention.

General chairman of the convention was W. O. (Toby) Morgan.

The Saturday litho quiz panel was made up of the following:

Moderator was Frank Oheme, Chicago Litho Institute, Chicago.

Camera: Charles Roeder, Roeder Studios, Chicago.

Chemistry: Paul Hartsuch, Interchemical Corporation.

Color Separations: Frank Preucil, Lithographic Technical Foundation.

Plates: Don Grant, Litho Chemical & Supply Co.

Metal Decorating: Harold Lee, J. L. Clark Mfg. Co., Rockford, Ill.

Press: Otto Smith, Photopress, Inc., Broadview, Ill.

Press—Webfed: Reginald F. Wardley, National Blank Board Co., Holyoke, Mass.

Technical Development: Michael H. Bruno, Lithographic Technical Foundation.

Deep Etch Plate Blinds

Some of the more important questions answered by members of the panel and the replies are as follows:

In answer to a question as to why a deep etch plate would go blind on the press, the panel answered that tests had been made using a deep etch lacquer to which some fluorescent pigment had been added. When areas of a plate became blind on the press, the test plate was examined under fluorescent light. It was found that the blind areas showed no fluorescence, whereas areas of the plate which were continuing to print satisfactorily showed fluorescence from the ink added to the lacquer prior to making of the plate. Conclusion drawn by the panel was that the lacquer had worn off due to press conditions, thus causing the blinding of the plate in these areas.

Frank Preucil reported preliminary results of a survey which Lithographic Technical Foundation is making relative to color separation and masking techniques throughout the industry. LTF submitted a chart from which the various lithographers were requested to make color separations using their regular masking procedures, and to submit a proof to LTF. Analysis of the proofs submitted by the various co-operating lithographers showed substantial variations. Preucil commented that the various masking procedures seemed to be functioning satisfactorily, but that the use of inks which are not properly balanced with the masking system nullifies part of the corrective action of masking.

The Hicky Problem

Someone wanted to know whether or not the use of a grained plate would increase or decrease the problem of hickies on printed work. The panel answered that part of the hickies come from dampeners, and part from the paper being printed. The panel commented that a new dampening system appeared to be very desirable. A member of the audience stated that 30 years ago he had tried a dampening system based on cooling the plate cylinder so that moisture from the air condensed on the plate. He commented that while this system worked with a few inks, it was not satisfactory from a production viewpoint. A member of the panel commented that one dampening system currently being studied has been installed on several large presses in several plants. The system applies moisture to the plate by spray. Excess spray is removed by a vacuum attachment installed immediately back of the sprayer. A foam system was reported under test, but the foam was reported to cause water spots on the plate which transfer to the blanket and show as spots on the printed sheet. Further development work on the foam dampening system is being performed.

In the field of metal decorating, a panel member reported only mediocre success printing on steel treated with a new type of surface treatment. Steel treated by this method had not given too good results in some test runs which were used on beer cans.

In answer to a question about the effect of the fineness of halftone screen on the quality of the printed reproduction, the panel stated that screens finer than 150 lines per in. gave no additional advantage in resolution or quality. Screens finer than 150 line cause additional difficulties in reproduction of middletones.

Solid Areas Print Grainy

The question as to why solid areas printed grainy, came up. The panel felt the trouble was probably caused by too coarse grain of the plate. It was brought out that grainy solids were not experienced on smooth surface plates such as presensitized plates and multi-metal plates. The panel recommended that the person asking the question try polishing the solid area on this plate which was printing grainy; if the grainy effect disappeared, it was due to the coarseness of the grain. An excess of water and lack of sufficient pressure are other possible causes mentioned by the panel.

The panel recommended that some other solvent be obtained for removing the fingerprints, etc., from negatives and positives, instead of carbon tetrachloride or benzol. Fumes of benzol are both a fire hazard and toxic to the individual; carbon tetrachloride fumes are toxic to the user.

Air Conditioning Shop

Panel members discussed desirability of air conditioning in the shop. They agreed that while air conditioning the entire shop was desirable, the cost was so high that many medium and small sized shops could not afford it. In the event a lithographer could afford to install air conditioning in only one department, the panel felt that the plate room was the logical place to air condition first. It felt that on days of excess humidity, plate departments might be shut down completely since this excessive humidity could prevent turning out conventional surface, deep etch, and multi-metal plates. Presensitized plates were reported as being less dependent on relative humidity in the plate room. It was pointed out that since most paper mills will supply paper to the moisture content specified by the lithographer, a paper with higher moisture content could be ordered for running in the pressroom on days when relative humidity in the pressroom was high. The panel felt that the press department and stripping and opaquing departments were second, third and fourth in order of priority for the installation of air conditioning equipment.

Dot Size Variations in Printing

Frank Preucil reported photographers were experiencing difficulty in making color separations of jobs which are run on four color presses, due to the increase in size of the dots during printing. The Lithographic Technical Foundation has devised a test four color job which has been set up and sent out to be test run on four color presses. Wide variations on the printed sheets re-

(*Continued on Page* 117)

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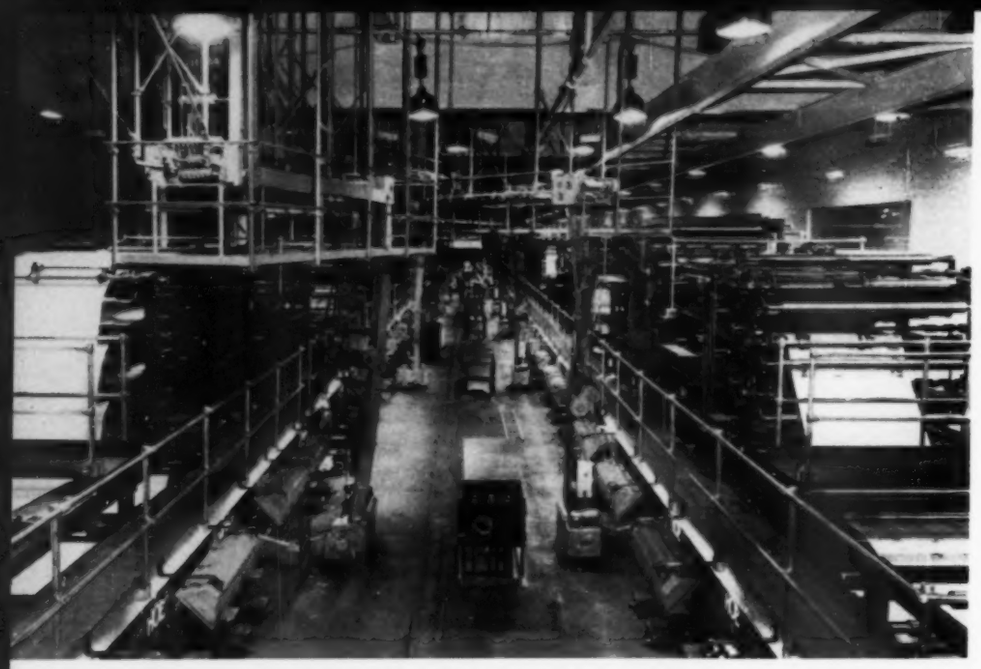


A view of the Philadelphia *Bulletin's* pressroom showing two lines of Hoe Color Convertible presses. Each line consists of 36 press units and seven folders and is powered by General Electric electronic drive.

Press Power Drive System At Philadelphia *Bulletin*

By W. L. WRIGHT*

***Systems Application Engineering, Printing Industry, General Electric Co.*

The power system developed for the electrical needs of the Philadelphia *Bulletin*, now in its second year of operation in new quarters, is an example of the load center concept of power distribution. The system enables power to be transmitted at high voltage to strategic load areas within the building and there transformed to the desired service voltage for local distribution and utilization.

According to engineers, this type of system results in a savings in copper conductors at a higher voltage level which provides a reduction in construction costs and simplification of power feeder distribution. These features were important in the case of the *Bulletin's* plant because of its large floor areas and the heavy concentration of power loads at various points throughout the building.

Included in this system is provision for supplying power for operating 72 press units and 14 folders positioned in two long lines. Each line consists of 36 Hoe Color Convertible press units and seven folders, 320 ft. long. The press equipment is designed for ROP color printing and is geared for a maximum production speed of 52,500 newspapers per hr. on a straight run.

Press Drive Equipment

The major press drive equipment includes: 86 press drive motors; 1 each 40 h.p., d.c.; two 2000 kva 13.2kv/460 metalclad press drive load centers each consisting of seven full automatic adjustable voltage ignitron press drive rectifier equipments together with motor selector panels, bus bars and switches. The two load centers, each approx. 100 ft. long, are installed end to end in a pressurized control room running parallel with the line of presses. The 13.2 kv power is brought to these load centers through three conductor interlocked armor HV cables carried on roller type cable racks suspended from the ceilings.

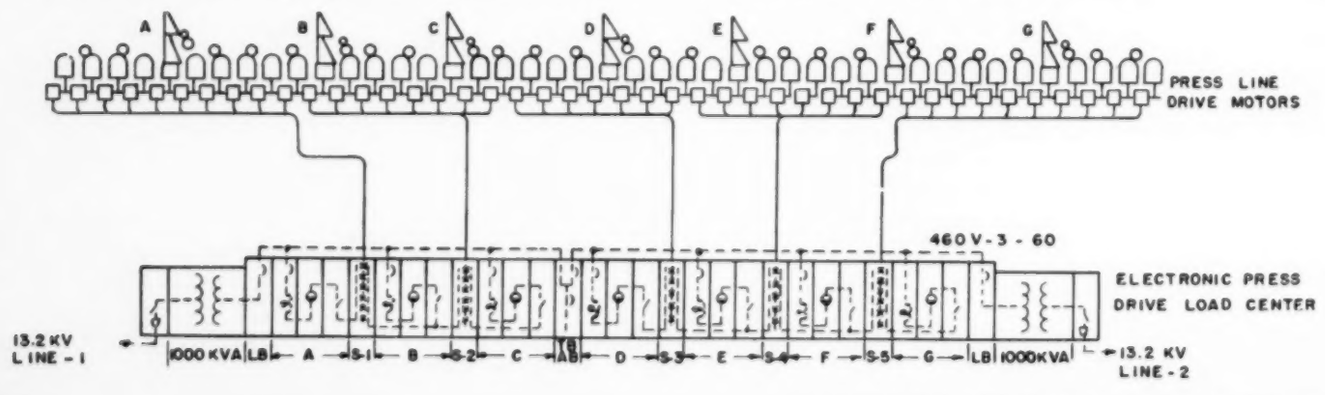
The complement of press control accessories include 298 oil tight pushbutton stations, 302 web break detectors and 72 web severing devices.

The basic power distribution system at the *Bulletin* consists principally of a high voltage incoming power distribution panel and five 2000 kva independent double ended unit substations with interchangeable Pyranol-filled transformers. This system provides a dual primary and a secondary selective switching arrangement whereby service accessibility is gained by means of tie bus switching with provisions for quickly isolating any primary feeder and/or transformer for maintenance purposes.

The main power supply to the plant enters through two isolated underground utility feeders at 13,200 v. which terminate in a metalclad high voltage metering and distribution panel including high interrupting type incoming line and feeder breakers. The transformers of each double ended unit substation are in turn supplied from these separate high voltage power sources.

Under normal operation all bus tie breakers are locked open and the total plant load is fairly evenly divided between the two incoming lines. In the event of trouble on any feeder or transformer the affected component can be quickly isolated by opening the circuit breakers on each side of the device and then closing the tie breaker to pick up the load previously supplied by the isolated component. The capacity of all unit substations will permit its total load to be

Fig. 1.—The G-E electronic press drive system at the Philadelphia *Bulletin* showing the selective features of the a.c. power supply to the various power rectifiers and the d.c. power distribution to the press drive motors.



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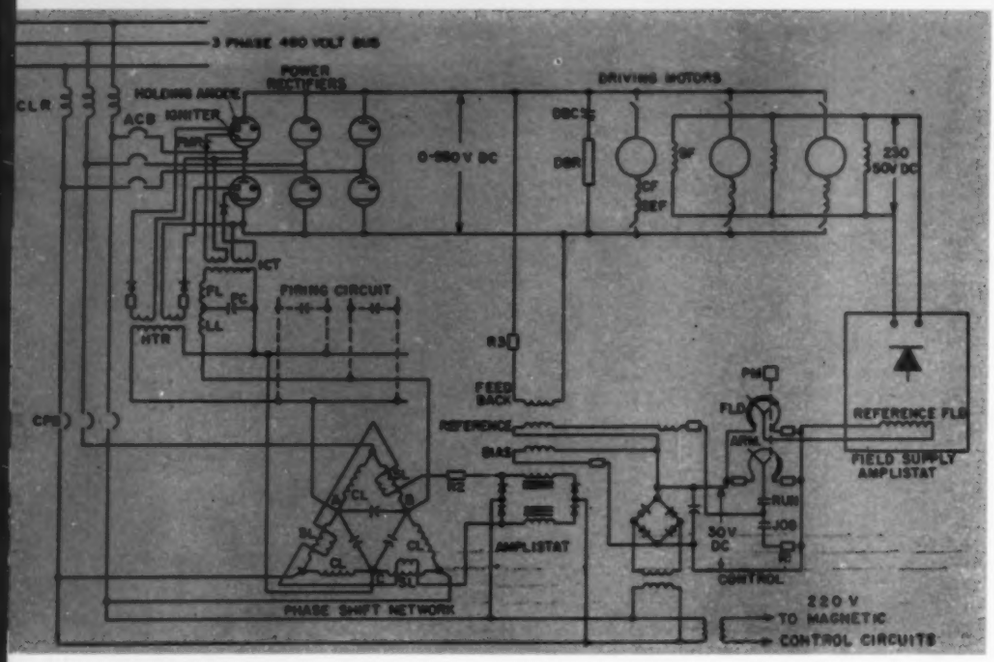


Fig. 2.—Schematic diagram of the electronic press drive system. The drive equipment is shown connected to a standard 460 v., 3 ph., 60 cy. power supply through an air circuit breaker and current limiting reactor. The legend is as follows:

ACB—Air Circuit Breaker
ARM—Armature
CF—Commutating Field
CL—Fixed Reactor
CLR—Current Limiting Reactor
CPB—Control Power Breaker
DBC—Dynamic Braking Contactor
DBR—Dynamic Braking Resistor
FC—Firing Capacitor
FL—Firing Reactor
FLD—Field
FMR—Selenium Blocking Rectifier
HTR—Holding Anode Trans
ICT—Ignitor Coupling Trans
LL—Linear Reactor
PM—Pilot Motor
SEF—Series Field
SF—Shunt Field
SL—Saturable Reactor

safely carried by either transformer for a reasonable duration.

Press Drive Power System

The load center idea was also carried out in the application of the electronic drive system for powering the two lines of newspaper presses comprising a total of approx. 3500 h.p. connected load.

Because of the feasibility to utilize standard 460 v., 3 ph. power directly by the power rectifiers, it became practical to integrate the electronic drive equipment directly with the main power transformers thereby effecting an economical equipment arrangement resulting in savings in installation costs, floor space and conductor copper.

There is a 300 kva. low voltage supply for press auxiliaries including ink pumps, reel and tension drives, press lighting and signal light service. This auxiliary load center is likewise provided with dual primary supply from separate 460 v. bus sections each feeding a 150 kva. 460/230 dry type transformer. Each half bus section normally serves its own line of presses. However, by means of selective line and bus tie switching it is possible to carry the entire auxiliary load of both press lines on either transformer continuously. With this arrangement the power supply for the essential press auxiliaries is placed on the equivalent level as the main power supply to the presses.

Fig. 1 is a line diagram of the electronic press drive system showing the selective features of the a.c. power supply to the various power rectifiers and the d.c. power distribution to the press drive motors.

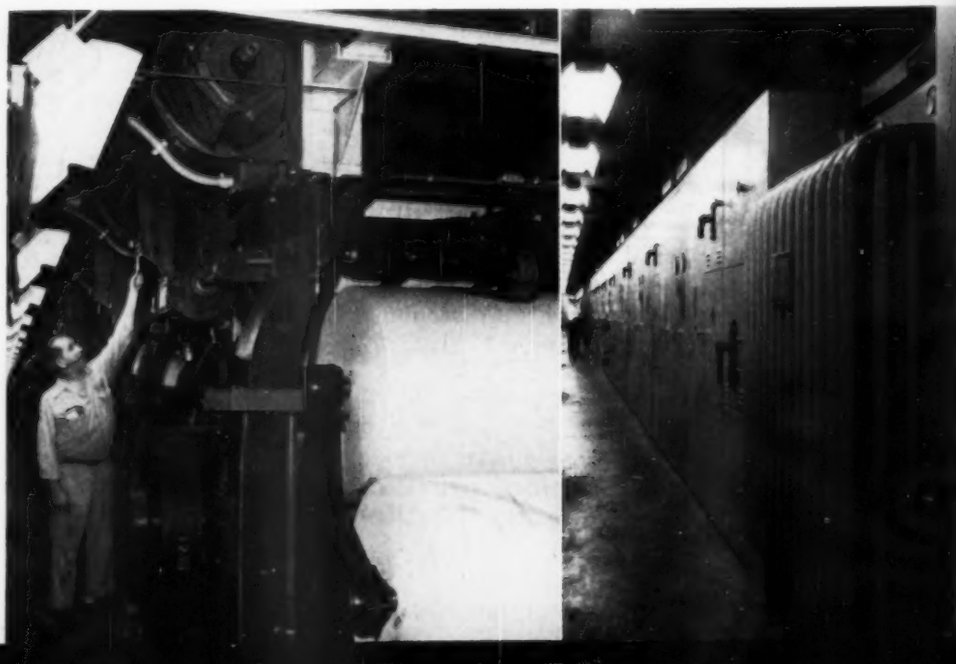
The electronic drive system installed at the *Bulletin* for operating its presses employs an ignitron-type mercury arc rectifier with an amplistat regulator for converting a.c. power to d.c. controlled power for the driving motors.

In this system, the press is powered by adjustable speed d.c. motors with armature and shunt field control. The press functions of inching, slow threading speed and acceleration to base speed are obtained by automatically regulating the d.c. voltage output of the rectifier with full field excitation held on the motors. Above base speed the rectifier continues to operate at full output voltage and the press is further accelerated by weakening the motor field.

This in effect produces two desirable drive characteristics: (1) The ability to start a large press smoothly with a minimum of current inrush because of the high level of motor torque available with full field excitation. (2) To provide a high level of operating efficiency over the range of field control because in this range both the rectifier and the driving motors are operating at maximum efficiency.

In Fig 2 is shown a schematic diagram of the electronic press drive system. The drive equipment is shown connected to a standard 460 v., 3 ph., 60 cy. power supply through an air circuit breaker and current limiting reactor. From this point the a.c. power is fed directly to a group of six sealed ignitron rectifier tubes arranged in pairs back to back, *i.e.*, anode to cathode, thereby forming the equivalent of three single phase full-wave rectifiers each displaced 120 electrical deg. The d.c. output of the rectifier is shown as a closed loop power circuit directly connected to a number of driving motors arranged for parallel operation. The diagram also shows an auxiliary 3 ph. control circuit supply for the tube firing network, rectifier amplistat, amplistat exciter for motor field excitation and for normal control service.

The speed is adjusted by means



In the illustration at right, the left hand view shows the press drive motors at the Philadelphia *Bulletin*. This is one line of 43 General Electric 40 h.p., 1150/1700 r.p.m., 550 v. d.c. press mounted motors on Hoe presses geared 52,000 papers per hr. The right hand view is of the *Bulletin's* control room showing front of General Electric 2000 kva. electronic drive load center equipment for operating 36 press units and seven folders.

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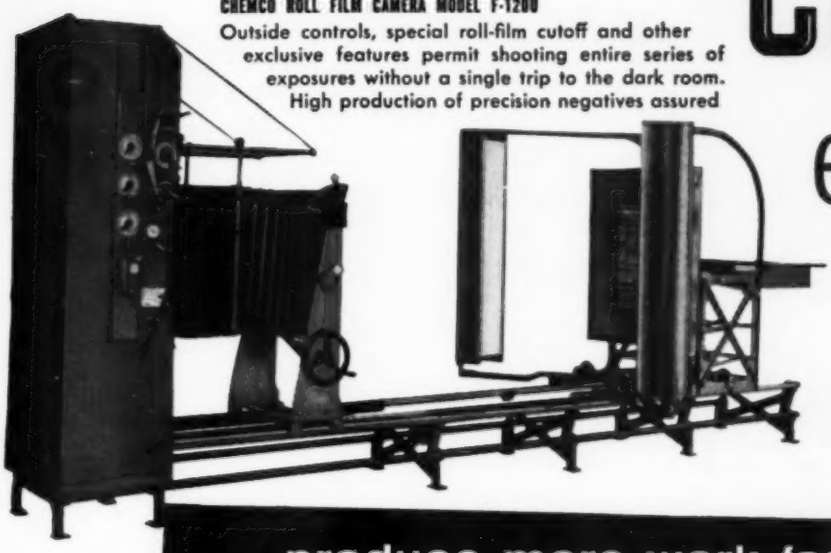

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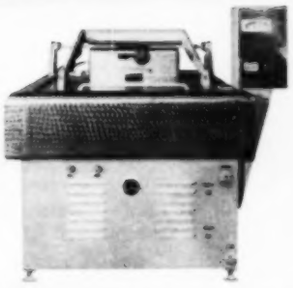

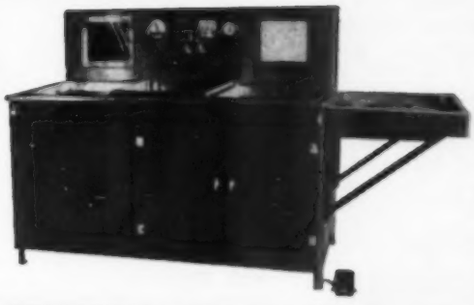

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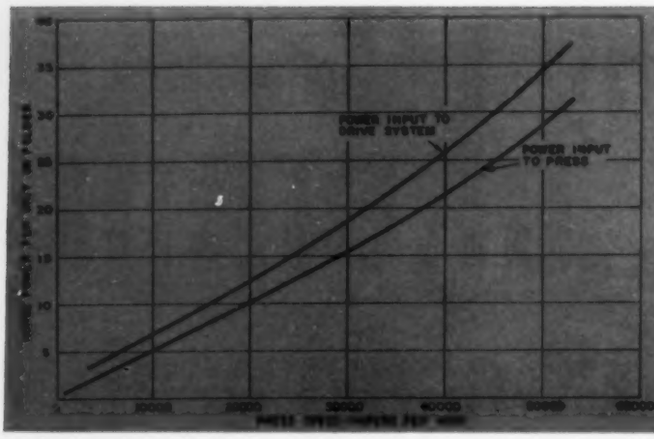


Fig. 3.—Power performance graph of electronic drive system. The spread between a.c. input curve and drive motor output curve represent the total losses of the drive system.

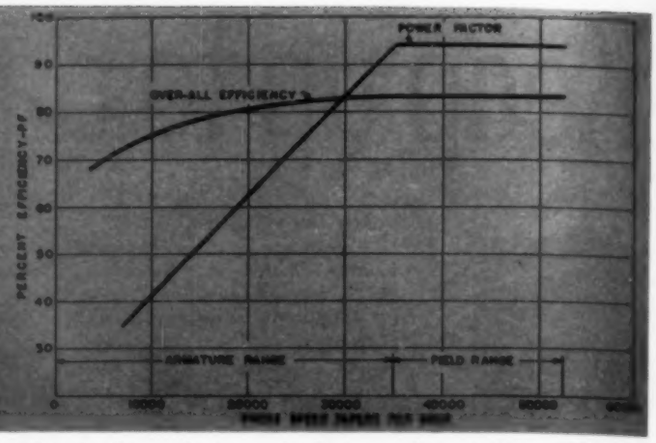


Fig. 4.—Power factor and efficiency characteristics of Philadelphia *Bulletin's* electronic press drive equipment. Ratio of output over input becomes the over-all efficiency of system.

of a pilot motor-operated rheostat whereby adjustable reference voltage signals are established to govern (1) The rectifier output voltage over the range of motor armature control, and (2) The output voltage of the amplistat exciter for the range of motor shunt field control. The speed adjusting rheostat is laid out so as to provide a linear speed response over the total range of speed control and with practically an infinite number of speed adjusting points. Braking is accomplished with individual motor resistors for braking the press quickly to rest for all emergency red button and web break stops. All components are of a static nature mounted in metalclad cubicles and installed as package equipment.

Press Combinations

A high degree of press unit and folder selectivity has been engineered into the drive system to meet the current and future demands for a widely varying number of page and color combinations in the *Bulletin's* weekday and Sunday editions. The unit motor drive, as well as press unit accessories, is arranged to be manually switched as an integral unit so as (1) To be electrically connected to operate into either adjacent folder, (2) To electrically disconnect the drive motor but retain press unit control functions, (3) to completely silence both drive and control. Tooth-type clutch couplings at each motor along the drive shaft enable the drive motors to be coupled together mechanically to make up the desired press combinations.

All selective switching operations are performed at the selector panels in the control room. Each selector panel contains complete switching facilities for a maximum of 10 drive motors, including control accessories. The various selector panels are electrically interconnected with adjacent rectifiers to provide two-way selections. Each drive motor is amply protected by overcurrent devices and includes load ammeters and small trimming field rheostats for checking individual motor performance and for adjusting relative load balance under operating conditions.

The selector system provides for a maximum of eight separate presses each consisting of nine printing units into one folder together with one color cylinder and one late news printing couple. Other small combinations covering the gamut from quads to double octuples, with or without color, can be selected with corresponding folders.

Because of the arrangement for color which enables the *Bulletin* to place color ads on practically any page of a given edition, a selector scheme was developed. This permits preselecting the coordination of web break detectors with web severing devices so that the incoming web can be fully protected regardless of the location of the initiating reel stand or the number of press units or color cylinders used. Manually operated selector switches (located under the catwalk adjacent to the folders) enable the selection to be made according to coded positions depending upon the nature of the various web runs.

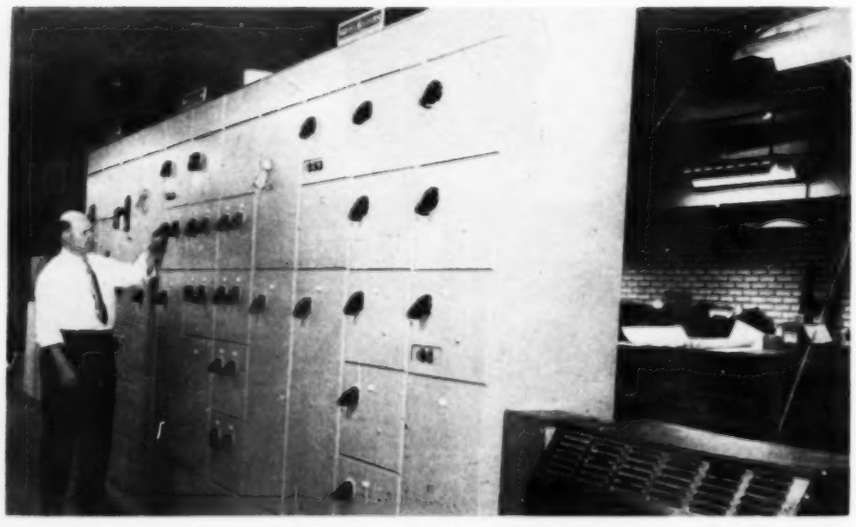
Press Drive Performance

In Fig. 3 is shown a typical power performance graph of the electronic drive system on a unit basis. The spread between the a.c. input curve and the drive motor output curve represents the total losses of the drive system. The ratio of output over input therefore becomes the over-all efficiency of the drive system as shown in Fig. 4.

The high power factor characteristics of the electronic drive system over the range of field control when the rectifiers are operating fully phased on, provides extra reactive capacity for over-all plant power factor improvement resulting from the relatively large induction motor load.

The ignitron tube losses, which constitute approx. 30% of the total losses of the drive system, are

(*Continued on Page* 112)



The press auxiliary motor control and lighting panel at the Philadelphia *Bulletin* which also supplies power for ink pumps, reel and tension drives, press lighting and signal light service.

High Costs "Out Again"* AT CHICAGO SUN-TIMES

One of the year's biggest deliveries of saw trimmers helps the Chicago Sun-Times score a dramatic lead in new composing room efficiency . . . Seventeen new Morrison Model 3-A Saw Trimmers, bought on the basis of proved time-saving, money-saving performance record of fifteen Morrison saw trimmers already in use. More than doubling the capacity of their composing room alone, the new units reflect the tremendous production demands of the Sun-Times' new expansion program.

***17 NEW MORRISON 3-A SAW TRIMMERS**
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If you're a newspaper publisher, or printer, your first thought may be "Congratulations to the Sun-Times." Then, a second thought might be "What does the Morrison Saw Trimmer have that again warrants this choice by Sun-Times?" We'd like to tell you how you, too, can benefit by the great Model 3-A and other versatile Saw Trimmers. Just drop us a note for the whole story!

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Large-scale Building Programs Started by Four Newspapers

Recent announcements by daily newspapers of multimillion dollar building programs accumulates as evidence that the newspaper industry is realizing the importance of placing its mechanical operations on a modern level. Four such programs have come to our attention—the Boston *Globe*, Buffalo (N.Y.) *Evening News*, Cleveland *Press*, and Fort Wayne (Ind.) *News-Sentinel* and *Journal-Gazette*.

Features of these plants indicate the trend to modern engineering techniques. For example, conveyor systems, a form of automation, are being used wherever possible; adequate newsprint storage facilities are being incorporated with the plant; location planning has given the plants access to railroad sidings; complete air conditioning equipment is being installed; and there is emphasis on good lighting.

Boston Globe

The Boston *Globe* is building itself a new $12 million newspaper plant after 84 years on Boston's famous Newspaper Row. The paper is abandoning the downtown location in favor of a 17½ A. site on the city's outskirts. Installation of equipment will begin this August and the plant is expected to be in operation by May, 1958.

Features of the new building will include complete air conditioning, automatic conveyor systems, well-lighted work areas and room for expansion in all departments. It will contain 344,048 sq. ft. of floor space. The two-story structure will be 340 ft. long by 521 ft. deep. There will also be a cafeteria, recreation area, roof-top terrace, locker and shower rooms, tailor shop, barber shop, first-aid room and parking area for 650 cars.

The site is bounded by multi-lane highways and a railroad line. The building will have facilities for accommodating as many as 10 freight cars at one time.

A total of 37 Hoe Color Convertible press units arranged in two rows will be located in the pressroom. This department will have an acoustical ceiling concealing the duct work used for ventilation. The presses will rest in a heavy bed of fabric and rubber materials to reduce transmission of noise and vibration to other sections of the structure.

Automatic conveyor handling of materials will be used wherever possible in every department. Such a system will connect the paper storage warehouse with the reel room. The warehouse, incidentally, will accommodate 4220 T. of newsprint in a humidity-controlled atmosphere.

Glazed tile walls in cream tones will prevail in all work areas. The engraving and stereo departments will have acid-proof brick floors, while industrial tile flooring will be used in the composing room.

Buffalo Evening News

As part of a long range expansion plan, the Buffalo (N.Y.) *Evening News* is constructing a new building to house its stereotype foundry, pressroom, mailroom, paper storage and garage. The new 300 ft. by 325 ft. structure will provide space for 100% equipment expansion in each department. Other operations of the *Evening News* will remain in the newspaper's present location for the time being.

The new plant, located in downtown Buffalo, is expected to be in partial operation by March, 1958. It will be situated near the New York Thruway, a multi-lane super highway, and will have a railroad siding which will accommodate five freight cars at one time.

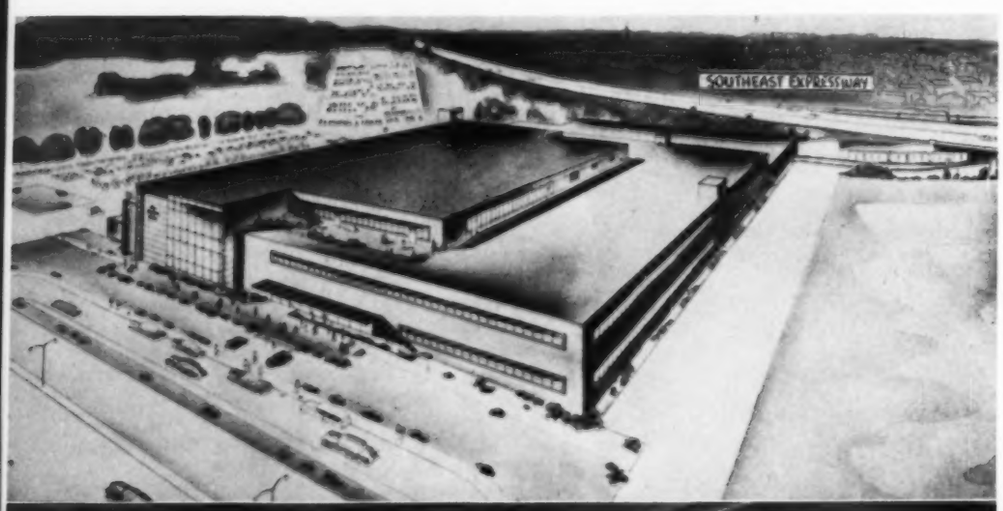
The warehouse will provide storage space for 6000 rolls of newsprint. There will also be two 12,000 gal. ink tanks. Covered truck loading docks which will be accessible from the garage through an inside truck entrance will be other features.

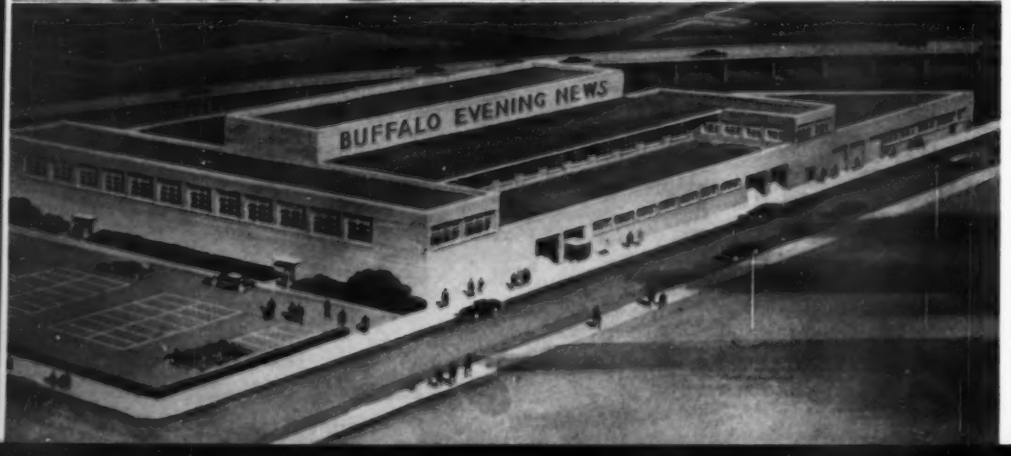
Press equipment will include 30 new Wood Metropolitan press units, five Wood four-color units and five folders, capable of producing a 96 page newspaper. Other new installations include a 22 T. Kemp remelt pot and two 6 T. Kemp pots, four Wiretyer bundle tying machines, Cutler-Hammer conveyors and Wiretyer telescopic truck conveyors.

Cleveland Press

The Cleveland *Press* announced plans in April for immediate construction of a new $10 million newspaper plant to be erected in downtown Cleveland near the lakefront. The facilities will virtually double the present space of all departments and are scheduled for completion in October, 1958.

There will be 300,000 sq. ft. of floor space in the structure. Indicated in the plant's layout are provisions for maximum horizontal workflow and all operations will be in line to save time and space, and to eliminate bottlenecks as





At upper left is architect's sketch of the new $12 million plant of the Boston *Globe*. Lower left is the new Buffalo (N.Y.) *Evening News* building which will house stereo, press and mailing operations, as well as paper storage and a garage. Both plants will be adjacent to multi-lane super highways.

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LOW COST—This is one of the lowest-cost automatic strapping machines on the market today.

COMPACT—Requires only 11½ sq. ft. of floor space. Table height, 31". Weight (approx.), 1500 lbs.

SPEED—Up to 24 ties per minute.

TWO SIZES—Either machine will handle packages as small as 8" wide by 2" high. The larger will handle packages as large as 26" wide by 20" high.

EASY TO OPERATE—Utilizes USS Gerrard Round Steel Strapping from 14 through 18 gauge. Easy to thread and operate.

LOW MAINTENANCE—One-shot, built-in lubrication system and compact, rugged, simple construction mean minimum service and maintenance.

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SINGLE POWER SOURCE—All functions are mechanically controlled and interlocked. Simply plug in and run.

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For more complete details, contact your USS Gerrard sales representative. Also mail coupon for folder and the Gerrard Blue Book of Packaging. This contains full information on all USS Gerrard Machines and round and flat strapping.

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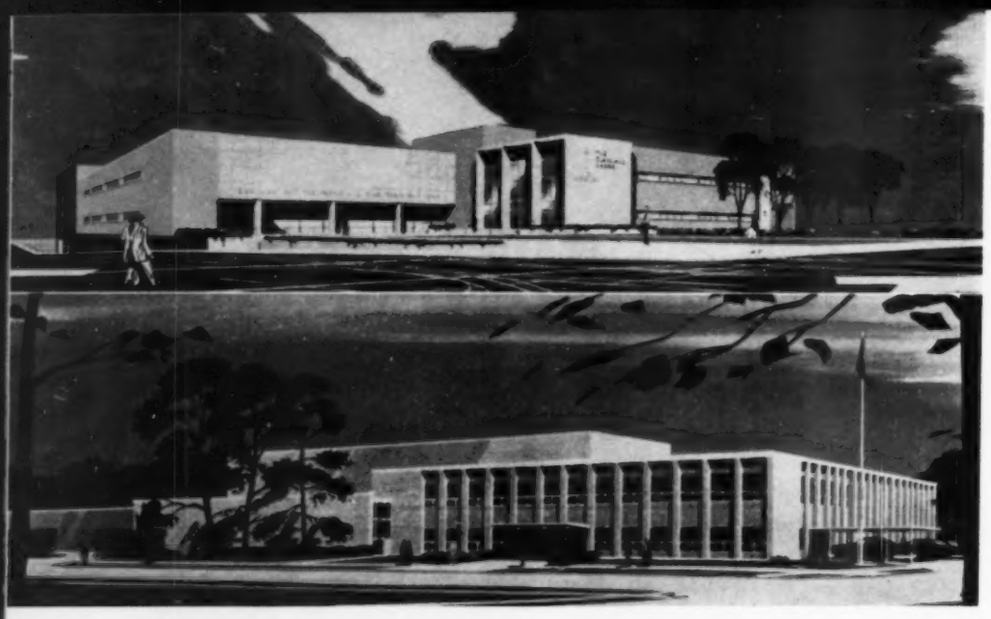


Upper sketch is the new $10 million building under construction by the Cleveland *Press*. Below it is the new home of the Fort Wayne (Ind.) *News-Sentinel* and *Journal-Gazette*, ready for occupancy next year.

well as waste motion. While the building will consist of four different levels, plus a canopied railroad siding at track level for unloading newsprint, operations will be concentrated largely on two levels.

The entire upper floor, except for an 18,000 sq. ft. mailroom, will be devoted to editorial, advertising, photo, composing, engraving and stereo operations. The pressroom, which is being laid out to permit a 100% increase in circulation, will be located on the ground floor. The building will also have a 40,000 sq. ft. paper storage area with a capacity for 5000 T. of newsprint.

The *Press'* new home will be constructed of reinforced concrete and will be air conditioned throughout. General illumination of 45 to 50 ft. candles will be provided throughout the offices where suspended metal acoustic ceilings and fluorescent fixtures are to be installed. In the composing room, the lighting level will be 70 ft. candles. The plant is being designed and built by The Austin Company, Cleveland engineering firm.

Ft. Wayne News-Sentinel

Scheduled for completion next January is a new one and two-story modern newspaper plant to house operations of the Fort Wayne (Ind.) *News-Sentinel* and *Journal-Gazette*. The structure will be 200 ft. wide at its widest point and extend 505 ft. along the front.

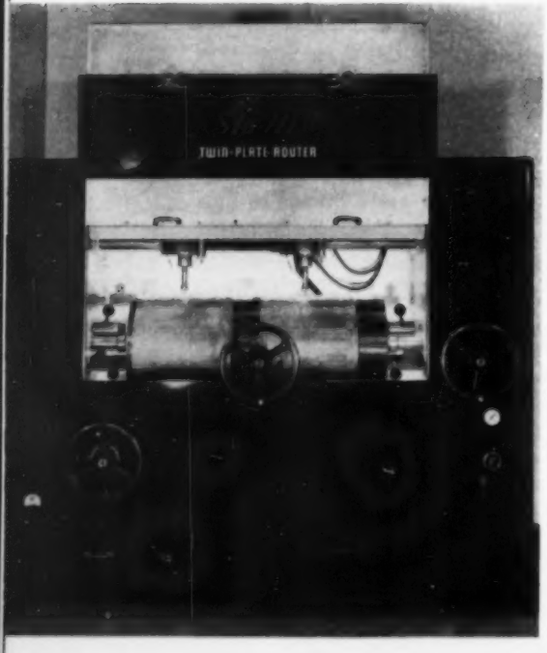
Exterior of the building is to be of brick, stone and porcelain enamel steel panels. Completely air conditioned, extensive use of tinted glass paneling will be featured in the building. Engraving, composing and stereo operations will be located on the second floor, while the pressroom will be in the central portion of the building. Unloading dock for receiving paper, reel room, mailroom and loading docks will all be at the same level. A warehouse will accommodate a 3000 T. supply of newsprint. Paper rolls will be moved from warehouse to reel room by a 217 ft. long Gifford-Wood conveyor.

A 10 unit Goss Headliner press equipped with six color cylinders will be installed. The pressroom is designed to permit expansion to 16 press units as needed. New stereo equipment will include two Wood Heavy Duty Pony Autoplates and Wood Tension Automillers, one each 10 T. and 1 T. Nolan stereo furnaces, and a Gifford-Wood plate conveyor. In the mailroom, new installations will include Jamol conveyors and dock equipment, two Signode wire tying machines and Cutler-Hammer newspaper conveyors.

Sta-Hi's Twin Plate Router

Culminating many months of development work and extensive field tests in the plant of the Los Angeles *Times*, Sta-Hi Corporation announces start of production of its new Sta-Hi Twin-Plate Router.

This equipment which is designed to simultaneously rout two identical curved newspaper stereotype color plates, will be demonstrated at the machinery exhibit during the ANPA Mechanical Conference in Chicago, June 10-12.



Sta-Hi Corporation has just announced production of its Twin Plate Stereotype Color Plate Router. Two identical plates can be routed simultaneously by the operator. Two or four plates can be mounted on the cylinder at one time.

In addition to being the first multiple-plate curved router to be commercially manufactured, a number of entirely new features and concepts for this type of equipment have been incorporated in the machine, according to Craig C. Baker, Sta-Hi president.

The spindle quill is operated pneumatically, speeding the in-and-out travel of the router bit and requiring minimum pressure on the foot treadle.

Rapid lockup of plates on the cylinder is made possible by a new cam lockup similar to those on newspaper printing presses. Two or four plates can be loaded at the same time. The machine can, if required, be used to rout only one plate, making it a dual purpose machine.

A new hydraulic, variable speed transmission is provided for rapid operation of Sta-Hi's power traverse for plate stripping. The operator can vary this stripping speed from a bare creep to maximum speed.

Safety dynamic braking brings the spindles to a complete stop within 3 sec., making unloading safe and fast, it is reported. The main drive motor is interlocked with the window, preventing operation of the spindle when the window is open, a safety feature which protects the operator from the rotating cutter. This window panel opens and closes vertically in a one motion operation.

A load indicating ammeter is provided as a check for any malfunction that would cause an overloading of the motor.

Also entirely new is an external micrometer adjustment, accomplished through a third handwheel at the left front of the machine, which makes possible rapid, accurate setting of routing depth while the machine is closed and running.

The machine is fitted with an improved interior lighting system,

(*Continued on Page* 118)

Chicago SUN-TIMES...

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AUTOMATION . . . the continuous mechanical flow of materials as engineered and being installed in the new, ultra-modern plant of the Chicago SUN-TIMES will ease worker tasks and speed news faster to readers, thanks to the foresightedness of the management of this great progressive newspaper.

Included in this vast SUN-TIMES expansion program is the highly specialized **Jampol Roll Handling, Paper Storage** and **Reelroom Equipment.** Newsprint conveyors will deliver rolls into storage where Jampol roll unloaders will automatically remove the rolls from the moving conveyors.

In the press reelroom a recent engineering development will be installed. This is a combination conveyor and track system to move rolls on dollies to the loading positions of the presses. For the ultimate in safety, track sections and transfer tables will be constructed with non-slip material surfaces.

Composing room equipment includes Jampol Conveyors which will handle copy and ad proofs. Proofroom conveyors will silently transport material to the proof readers and even mats and cuts will travel to their destination on their own special conveyors.

LIST OF JAMPOL PRODUCTS

- Stereotype Plate Pneumatic Drops
- Stereotype Plate Electric Elevators
- Stereotype Plate Pressroom Conveyors
- Newsprint Chutes
- Newsprint Elevators
- Newsprint Pneumatic Drops
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- Newsprint Track Systems
- Newsprint Transfer Tables
- Newsprint Dollies
- Mailroom Loose Stack Conveyors
- Mailroom Bundle Conveyors
- Mailroom Tables
- Mailroom Bundle Spiral Chutes
- Mailroom Wire Tying Machine Feeder Conveyors
- Mailroom Pushers (Milwaukee Journal Feeder Mechanism)
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PROPERTIES AND PROCESSING OF

Presensitized Offset Printing Plates

Part I—Working with Plate Properties

By AXEL LUNDBYE*

**Consultant, Printing Engineering Div., The Todd Company, Inc., Rochester, N.Y.*

Ever since Alois Senefelder adapted a stone to serve as a printing element, the offset printer has been trying to obtain both better and cheaper reproduction by offset processes.

The albumin plate was cheaper but not as good as the deep etch plate, then came the high etch plate, bi and tri-metallic plates and presensitized plates. All do a good job.

The above is history, tomorrow's plates are still a mystery.

What industry has been trying and is still trying to do is to obtain by economical means the best possible reproductions; *i.e.*, we want to reproduce as close to the original art work as possible but at a price. We try not to price the printing out of reach of our customer. We have been trying, both here and in Europe, to get absolute reproduction. We are getting closer every day. The fine grain plates, or as some people call them *grainless plates,* are helping us. Most of the bi and tri-metallic plates, as well as the presensitized plates are of the above type.

In this discussion we will only be interested in presensitized plates as the bi and tri-metallic plates were written up in *Printing Equipment Engineer,* February through July 1953 under the title *From Stone Age to Bi-Metal* and, for that matter, these plates have been discussed on many other occasions.

It is a well known fact that these plates, properly processed, are able to reproduce some of the finest printing that it is possible to obtain with the offset process and, besides, some of these plates will give in excess of a million good impressions.

The presensitized plates are new to the field. They yield much shorter runs than the bi and tri-metallic plates, but the reproduction will be nearly as good. The different manufacturers of presensitized plates will recommend them up to 40 thousand impressions. However, with proper care, it is possible to run presensitized plates up to 200 to 300 thousand good impressions. This can be done by redeveloping the plates after each 40 thousand impressions.

Let's put down what we are interested in in an offset printing plate:

1. Quality.
2. Good tone reproduction.
3. Smoothness of ink on the printed sheet.
4. Dot sharpness.
5. Good resolution.
6. Uniformity.
7. Elimination of slur.

The making of any offset plate, be it bi or tri-metallic, presensitized or any other type of offset printing plate, requires good negatives, because the plate will never MORE

be better than the negatives. We need a sharp, hard, dot formation, and when we have a good negative, we need the skilled judgment of a good platemaker.

Let us remember that the very complexity of any offset printing plate causes the platemaker to think because we have so many uncertainties in producing a good plate. Therefore, it becomes mandatory that the platemaker employ all help he can obtain in building a solid foundation for his platemaking technique.

We have a not too universal tool used by platemakers. This is the Sensitivity Guide developed by Lithographic Technical Foundation. What is this Guide? It is nothing more nor less than a continuous tone gray scale approximately ½ in. wide, 6 in. long, graduated into 21 steps. Each step is numbered. The density of Step 1 is approx. 0.10 and that is the density of the film base. The

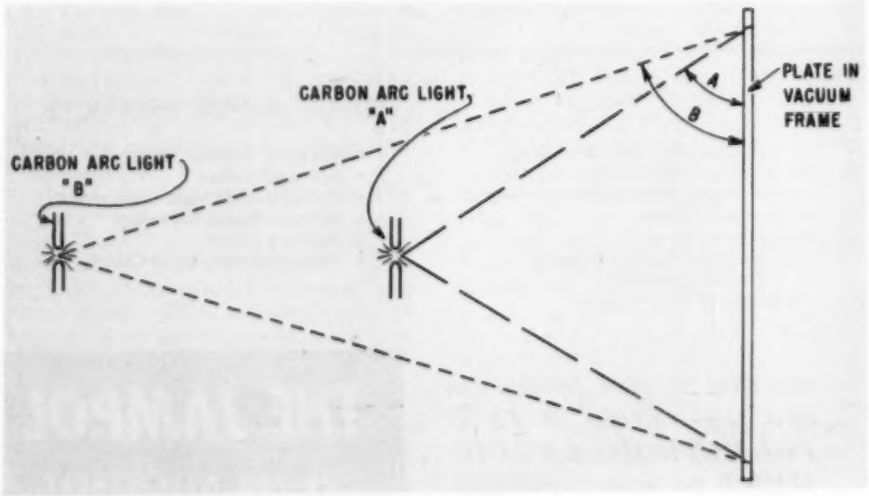

Fig. 1.—Minimizing undercut. By moving the arc light further away from the vacuum frame, the undercut will be reduced as indicated by angle *A* obtained with arc light in *A* position, and by angle *B* obtained with arc light in position *B*.

THE INDIANAPOLIS STAR
THE SPOKESMAN-REVIEW
Courier EXPRESS
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DALLAS TIMES HERALD
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L.A. ACCIDENTS MOUNT; JAIL 40 DRUNK DRIVERS
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Dulles Says Danger Of War Lessening
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SHEPPARD READY TO REST HIS CASE
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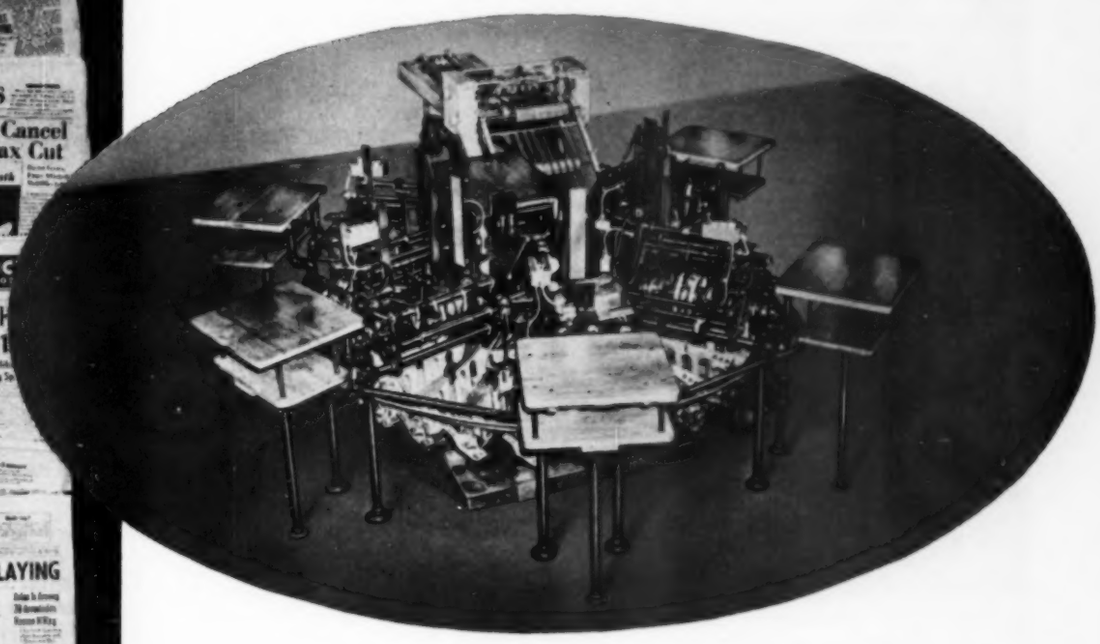

The new four- or five-hopper 24P Sheridan Stuffing Machine offers you the flexibility required to meet all insert conditions.

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density of Step 2 is 0.15, plus the base film density, *i.e.*, 0.25, and each step up to No. 21 increased 0.15; therefore, Step 3 equals 0.40. That is what we call *constant increment* scale.

In the LTF scale, when we have the *increment*, or we can call it increase in density per step of 0.15, the transmission of light is halved. At every other step; *i.e.*, Step 4, transmits twice as much light as Step 2, and Step 5 half as much light as Step 3. In other words, it is more or less similar to the *f* number system used in camera lens diaphragms.

Such a scale as the Sensitivity Guide, or gray scale, is an accurate all purpose device for measuring changes in the sensitivity of any coated plate, and can be used with great benefit in any phase of platemaking where we desire control of the sensitivity. We all know that the control of reproduction, especially tone reproduction in offset printing, is a complicated problem, due to the fact that there are so many steps involved between the original and final reproduction.

Full information regarding LTF Sensitivity Guide can be had in the Foundation's Research Bulletin No. 15. There is another guide on the market. This consists of Eastman Kodak No. 2 and No. 3 Step Table. Here the steps will have to be numbered, preferably with India ink, starting with No. 1 for the clear step. Where the guide (either one) is used, it is stripped in on the negative, being sure that the guide will not print when the plate goes to press.

It should not be necessary to say that the guides should receive the same exposure as the rest of the plate during the exposure. Then, when the plate is developed (we are now talking about the presensitized plate) we should never have less than 7 steps nor more than 10 steps on the Sensitivity Guide. Step 8 would be the preferred one.

When the plate is developed after exposure, and still wet with water, rub the image of the sensitive guide vigorously with the finger. Loosely bonded material will rub off quickly. If all areas up to No. 8 remain completely coated, then the plate is properly exposed. If No. 8 rubs off, then the plate is underexposed. When areas 8, 9 or more remain completely and tightly adhering to the plate, we can be sure that the plate is properly exposed. This plate should give us good press life, assuming the press is set and operated correctly.

If the step on the Sensitivity Guide is 7 and we want Step 8 and our exposure time for 7 was 2 min., then to get Step 8 we must multiply 2 × 1½ or 3 min. and, leaving everything else as it was, by the 3 min. exposure time Step 8 should show up on the guide.

Exposure Times

Now bear in mind that it is not certain that 3 min. is the correct exposure time for Step 8. It might be 1 min. or 5 min., or even more or less, but as shown in the table below it will be necessary to establish a time element and we will assure that 3 min., with our light, will give us Step 8. Then, if we get more steps or less steps, follow the table below:

	MULTIPLY BY	EXPOSURE TIME	CORRECT EXPOSURE
Step 8	1	3	3
7	1½	2	3
6	2	1½	3
5	3	1	3
	DIVIDE BY		
Step 9	1½	4.5	3
10	2	6	3
11	3	9	3

Or we can use the following data: If the reading of the Sensitivity Guide is less than Step 8, then increase as follows: Multiply by Step 8 × 1, Step 7 × 1½, Step 6 × 2, Step 5 × 3. If the reading of the Sensitivity Guide is more than Step 8, then decrease as follows: Divide Step 8 by 1, Step 9 by 1½, Step 10 by 2, and Step 11 by 3.

We can still put it another way: If we have Step 6 on the Sensitivity Guide and want Step 8, double the exposure time. On the other hand, if we have Step 10 and want Step 8, cut the exposure time in half.

What was said above is that if we want to increase the number of solid block steps on the exposed Sensitivity Guide by 2, double the exposure, and if we want to decrease the steps by 2, cut the exposure time in half.

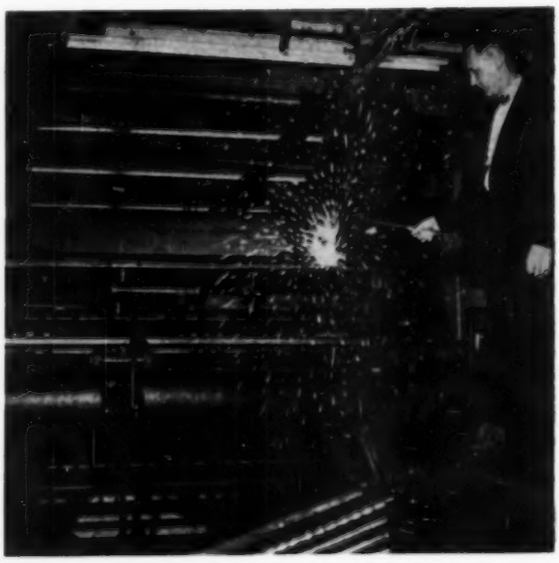
Any platemaker or printer knows there are so many variables in producing any type of offset plate and, before the appearance of the Sensitivity Guide, we had no way of knowing if anything was wrong with the plate. Now, with the Sensitivity Guide we will know if our correct step does not show up and when the plate is developed we know something has gone wrong some place. The Sensitivity Guide will not tell us what is wrong no more than a thermometer when it indicates a man's temperature is going above normal will tell us what is wrong with the man. He goes to a doctor to find out. The platemaker is the doctor in our case and it is up to him to determine the trouble and correct it, and make a new plate.

When we use presensitized plates, several of the bad variables in making offset plates have been eliminated. Presensitized plates are not very sensitive to temperature except to prolonged exposure, but more important, not very sensitive to changes in relative humidity.

New Plate Life

The shelf life of the average presensitized plate is approx. 6 mo. Usually, the manufacturer notes an expiration date on the package. Presensitized plates are not subjected to dark reaction before exposure, nor to continued reaction after exposure. That they are affected very little by changes in heat and relative humidity, as already stated, is one of the more important points for presensitized plates. Platemakers should get that fact down pat. However, for that to be true, the plates should be kept in their original packages and should never be stored close to radiators, direct sunlight, steam pipes and moisture, or any prolonged exposures to heat, moisture, or actinic light.

(*Continued on Page* 135)



Making Room for Progress — Sparks flew recently at Danner Press, Inc., Akron, O., as an acetylene torch cut up a one color offset press into small pieces for the junk yard. Shown is Fred B. Underman, president of Danner, trying his hand with the torch. The 45 in. by 68 in. Harris press was built in 1935 and is now being replaced by a new Harris 52 in. by 76 in. two color offset press.

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REPROLITH FILM. Blue sensitive, for high contrast positives by contact printing from line and halftone negatives. May also be used in the camera.

REPROLITH THIN BASE. Blue sensitive, for making deep-etch positives and for dot etching. Perfect for lateral reversals, overlays, and strip-ins.

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REPROLITH PANCHROMATIC. Full pan sensitivity, high speed, high contrast. For direct halftone or line separations from colored originals.

REPROLITH STRIPPING FILM, ORTHOCHROMATIC. Fast exposure speed, short developing time. Anti-halation back coating to maintain definition. Strips easily with minimum soaking.

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ACID FIXER. A single-mix, easy-to-dissolve powder. Recommended whenever a hardening formula is desired.

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What's New in Graphic Arts

(Continued from Page 62)

erator judgment, that is, a photographic printer with automatic dodging and exposure control. A layman's explanation might be that it is a device for bringing out from the negative details which would not be apparent in ordinary photographic procedures.

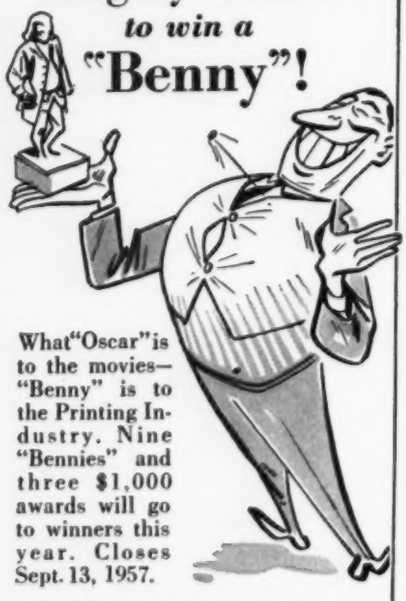
Research at GPO

A well written research report entitled *Research in the Government Printing Office* was presented by M. S. Kantrowitz, technical director. One of the most important developments appears to be that of the white stamp pad ink for photographic negatives for identification and record purposes. Also reported was development of a laundry marking ink which is non toxic in nature. An interesting report was related to a pre-coated adhesive for cherry blocking wood for use in mounting printing plates instead of nails. Other developments were also reported by Kantrowitz.

Automatic Newspaper Mailroom Operations

H. R. Behr, vice president, Cline Electric Mfg. Co. reported that Cline has been developing two systems for automatic mailroom operation for newspapers. One system is a fully automatic process, with counting and bundling operations controlled by IBM punched cards or punched tapes that had been previously prepared from the daily truck-loading chart. The second system is considered to be semiautomatic, with the operations controlled by a dispatcher from a central control console, which is set up manually, in advance, from the daily truck-loading schedule. Both systems can be adapted to the counting and dispatching of bundles of magazines and other publications in large operations.

You'll be Mighty Proud *to win a* "Benny"!



What "Oscar" is to the movies—"Benny" is to the Printing Industry. Nine "Bennies" and three $1,000 awards will go to winners this year. Closes Sept. 13, 1957.

For rules and entry blank, write today!

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RIT Research Objectives

Warren L. Rhodes, head, Graphic Arts Research Dept., Rochester Institute of Technology, presented a short summary of the research projects conducted by his department during 1956. The first of the reports was related to process color printing or newsprint. Another objective is facsimile color reproduction studies which is a long-range project. Improved techniques in photoengraving is another objective. A study of fluxes, solders, and techniques to develop a suitable solder for magnesium is underway. Another research objective is that of additives for zinc etchants. In this case, materials are being studied which may reduce the etch factor, result in a smoother bottom, reduce oxidation, and perform in a more uniform manner. Removal of the zinc surface of magnesium plates is an objective. In this instance, alkalies and electrolytic techniques are being investigated. A no-pack stereotype mat objective is being carried on. An arc lamp performance study is being undertaken in relation to intensity, color, voltage, and current of arc lamps with time.

Brush Graining of Offset Plates

The Army Map Service, Corps of Engineers, U.S. Army, through Col. J. D. Abell, presented the report on brush graining offset plates for reuse and development of what is called rub-on color proving process. The report is rather detailed with respect to the work which was carried on to develop a brush graining machine for aluminum and zinc plates. With the cooperation of the Corps of Engineers, the Fuller Brush Co. has developed a machine for this purpose. The machine surfaces plates at the rate of 6 ft. per min. Thus a 59 in. plate requires 1 min. to be surfaced and dried.

While the Fuller machine was being built, plate processing solutions were evaluated through a contract with the Harris-Seybold Co. to find suitable plate making materials for brush grained plates. It was found that poly vinyl moleaic anhydryde copolymer/half amide could be made light sensitive when combined with ammonium bichromate. When processed to metal, the material possessed excellent de-sensitizing properties in the nonprinting areas. Included in the report was comment on development of the rub-on color proving process.

Graphic Arts Research at Battelle

Lewis E. Walkup, chief, Applied Physics Div., Battelle Memorial Institute, Columbus, O., reported a limited number of Graphic Arts research objectives. One of these, sponsored by the Haloid Company and Signal Corps, U.S. Army, consists of research on continuous tone xerography (the dry electrostatic process of photography) has been continued, with emphasis on improving powder-cloud development systems. Another project sponsored by the Haloid Company and Corps of Engineers, U.S. Army, is related to the preparation of lithographic plates by xerography for printing high quality military maps.

Resurfacing Presensitized Plates

It is reported by the Engineer Research and Development Laboratories, Corps of Engineers, U. S. Army, that presensitized plates do not furnish the complete answer for the Army's mobile units. A one shot plate complicates the supply problem, and the shelf-life of these plates leaves something to be desired for a military use. Under test at the moment is a brush surfacing method which gives all indications of eliminating the conventional grainer. The surface of the plate, when examined under a microscope, looks similar to a presensitized plate.

Printability Research Program

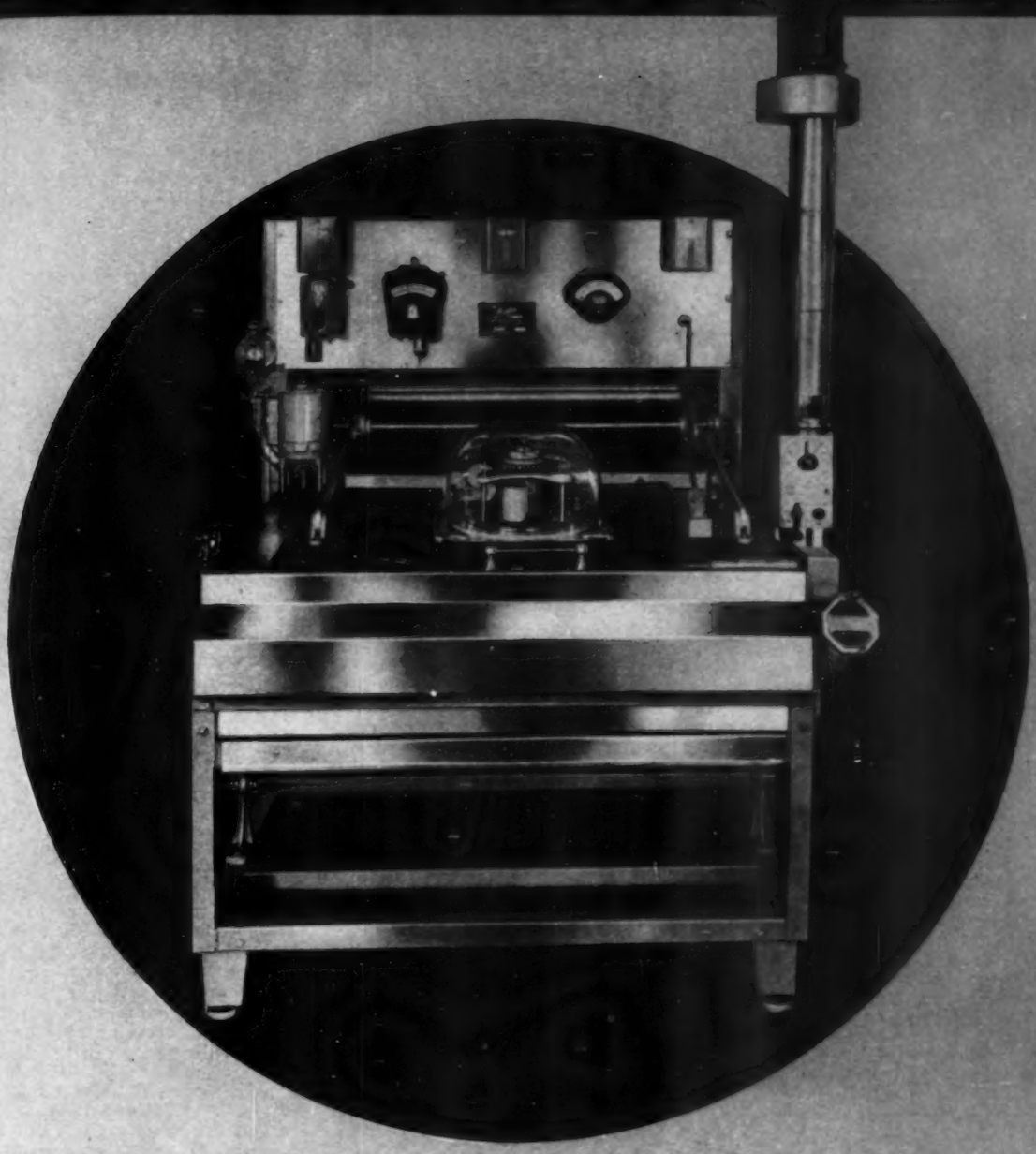
Director of Research W. D. Hall of the Folding Paper Box Assoc. of America, reported concerning progress of the Association's printability research program at Lehigh University. The project is aimed at a better understanding of the factors contributing to the printability of paperboard.

Research at Harris-Seybold

Dir. of Research W. C. Roberts, Harris-Seybold Co. reported centralization of several research groups as well as broadening of the space of that company's scientific personnel. With respect to conventional problems, Roberts reports continued work on dampening systems, inking systems, higher press speeds. In the field of lithographic chemistry, there are continuations and extensions of previous work on presensitized plates and chemical sensitizers. One of the major programs has been development of a high speed web feed offset press. Culmination of this work is a large eight color web offset press now in commercial use. Accessibility has been provided at all working points in this press, particularly in the printing units. Application of hydraulics to cutting and trimming machinery has resulted in a line of cutting machines from 41 in. to 100 in. in width. Automatic positioning of work has been developed to permit presetting a complete cycle of cuts, so that the operator need only handle work in and out of the cutter.

Research Work at Ideal

Vice Pres. Norman L. Rowe reported for Ideal Roller & Mfg. Co. with respect to recent research work. He discussed the research problems incidental to development of the Plast-O-damp dampening roller cover for offset printing presses. To make the roller fully effective, Ideal developed a synthetic cushion roller to



FOR THE *Dow* POWDERLESS ETCHING PROCESS

For More Information Circle 183 on Reader Service Card

Color Printing Panel at recent Research and Engineering Council meeting in Philadelphia. Unfortunately, the pictures of three are not shown. These were Moderator George Beck, Beck Engraving Co., Philadelphia; George Dearnley, vice president, McCann-Erikson, and Carl Bartel, Scanner Div., Printing Developments, Inc., New York, N. Y.

Panel members shown (left to right): William R. Maull, director sales service, The Mead Corp.; David M. Kirkpatrick, manager, Philadelphia sales laboratory, Fred'k H. Levey Co.; Warren B. Reese, vice president, Macbeth Daylighting Corp.; Robert B. Davis, vice president, Davis, Delaney, Inc., New York, N. Y.; Philip E. Tobias, director of research, Edward Stern & Co., Philadelphia; Arnold A. Rogers, president, Rogers Engraving Co., Inc., Long Island City, N. Y.; Milton Mild, superintendent, litho arts department, Western Printing & Litho, St. Louis, Mo.; Walter A. Goldsmith, vice president, Edward Stern & Co., Inc., Philadelphia.

give support to the parchment-like covering. He said the base roller should last indefinitely and remain soft.

LTF's Research is Extensive

The report of the Lithographic Technical Foundation through Research Mgr. Michael H. Bruno was quite extensive. There are 21 projects listed, announcement of which has already been made in most cases to the lithographic industry. Among the projects listed are investigation of new light sensitive materials developed for photography or platemaking, investigation of properties of metals to determine what causes the wetting of metals by water and ink, improvement of image properties of plates, improved desensitization of plates, grain standardization, color reproduction studies, halftone reproduction studies, multiple color images from one plate, study and control of reproduction quality, dampening studies, studies of ink transfer during printing, paper wettability studies, paper fuzz scanner and the preservation of plates to increase storage life.

3M Reports Makeready Improvements

Dr. C. L. Jewett of the Printing Products Div., Minnesota Mining & Mfg. Co., reports that the 3M Makeready System has been modified to include suitable overlay material for use in carton and box printing. Because greater impression is required, is was necessary to produce a sheet that would yield an expansion of up to 0.006 in. in the solid and shadow areas. A special powder that may be used to dust colored inked images has been developed. By this technique it is possible to prepare overlays of colored subjects without the necessity of first printing with black ink. Another application of the principle used in the 3M Makeready System involves the use of expanded mats in treating electrotypes. A special type of black makeready paper printed with silver ink and expanded may be used as a face mat for this purpose, or it may be used in combination with a back mat.

Ink Transfer-Film Splitting

The National Printing Ink Research Institute, Bethlehem, Pa., through Asst. Dir. William D. Schaeffer reports marked progress was made during the last year in two fields of importance to the Graphic Arts—ink transfer and film splitting. Earlier work had demonstrated that ink transfer during printing could be divided into that immobilized by the paper during dwell-time and that which splits from the remainder. The latter portion is called the free ink split. A correlation has been obtained between the split of the free ink and its rheological properties. Separation correlations were obtained for each vehicle system. Some of the reported related studies (1) Correlation studies of printing and physical properties of various stocks including paper, paperboard, and plastics; (2) Characterization of uniformity of black solid prints, and (3) Development of a drying time recorder for standardization of print drying time measurements.

What's Needed in Graphic Arts

The second session of the Thursday afternoon, May 16 meeting was devoted to discussion of *What's Needed in the Graphic Arts*. C. M. Flint, consultant, Chas. T. Main, Inc. served as moderator. After making suitable comments regarding the organizational structure of the Research & Engineering Council, he said that basically, the Council operates through committee action. The five basic committees are these: (1) Binding and finishing; (2) Printing; (3) Photo-mechanics and Platemaking; (4) Composition, and (5) Engineering and materials handling. He first introduced Alan S. Holliday, chairman on the Committee for Composition. Holliday is research director for the Hughes Corporation and vice president of Science Press, Lancaster, Pa. Holliday reported that major objectives of his committee consist of a standardized system for marking copy, perhaps through color coding so that one uniform system would be available to the industry. He also mentioned a loose guide program to cover what might be considered "the ideal composing machine". He explained that the procedures for keystroke study for determining composition time has been disappointing. A study of special banks for composing room type, composition and makeup is under observation. Mention was made of one of this type of composition bank in the composing room of the Standard Register Co., Dayton, O. Under supervision of William Hagan, Kingsport Press, Kingsport, Tenn. a questionnaire will be sent out to the industry with respect to getting the answer to "What is type high?" Another objective is improvement in phototypesetting.

Photomechanics and Platemaking

The Committee on Photomechanics and Platemaking rendered its report through Chairman Marvin C. Rogers who is director of research, The R. R. Donnelly Co., Chicago. It is the objective of the committee to prepare a less complicated method for handling color printing. Another suggestion submitted to the committee was the need for a larger magenta contact screen. Another suggestion was a need for a more steady light source for color separation work. In the gravure process a replacement for carbon tissue is wanted. There is

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At a two-part session. Research and Engineering Council committee chairmen reported on *What's New in the Graphic Arts* and *What's Needed in the Graphic Arts*. Left to right, the panel members were: Moderator C. M. (Larry) Flint; Alan S. Holliday, chairman of the Composition Committee; Dr. Wm. Walker, chairman of the Printing Committee; Dr. Marvin C. Rogers, chairman of the Photomechanics and Platemaking Committee; Edward J. Triebe, chairman of the Binding and Finishing Committee. Flint is also chairman of the Engineering and Materials Handling Committee.

also need of development for a method of making duplicate intaglio cylinders. Another objective of the committee is development of a flexible type metal plate. Methods of routing magazine plates, too, are needed. Other objectives mentioned were a method for removal of adhesives, a study to determine the best method of cleaning photoengraving plates before etching, and a high speed proofing method for color. It has been suggested that the committee study emulsions on Mylar and Cronar supporting bases.

Binding and Finishing Committee

Chairman of the Binding and Finishing Committee is Edward J. Triebe, executive vice president, The Kingsport Press, Kingsport, Tenn. Among the subjects to be studied are standards for materials, adhesives, printing papers, cover boards, inks for printing, wire stitching, and so forth. A major operation in the bindery is folding. There are many variables in machine folding such as sheet control, accuracy, grain in the sheet, and behavior of the paper. In book and publication work a task force will study more accurate trimming at higher speeds.

Printing Committee Activities

The report of the Printing Committee was presented by Dr. William C. Walker, chairman. Walker is associated with Williamsburg Development Laboratory, West Virginia Pulp and Paper Co., Williamsburg, Pa. One of the committee's prime activities is that of the causes and remedies for moire in halftone and color printing, particularly with reference to the latter. Another objective of the committee is printability, especially with behavior and condition of the printing press. With respect to solutions for printability, problems may have to be arrived at by calculus. The answers can then be interpreted for the information of everybody in simple language. It is the intention of the printing committee to review the subject of static electricity in order to bring the subject up to date. The subject of ink drying and offsetting wil be investigated as will also inking rollers. The committee will investigate the compatibility between plates and presses when curved plates are used on rotary presses. It is the intention of the committee to provide a monograph on simpler paper tests that can be conducted by the printer in his own plant. The committee will work with the Technical Assoc. of the Pulp and Paper Industry.

Engineering and Materials Handling

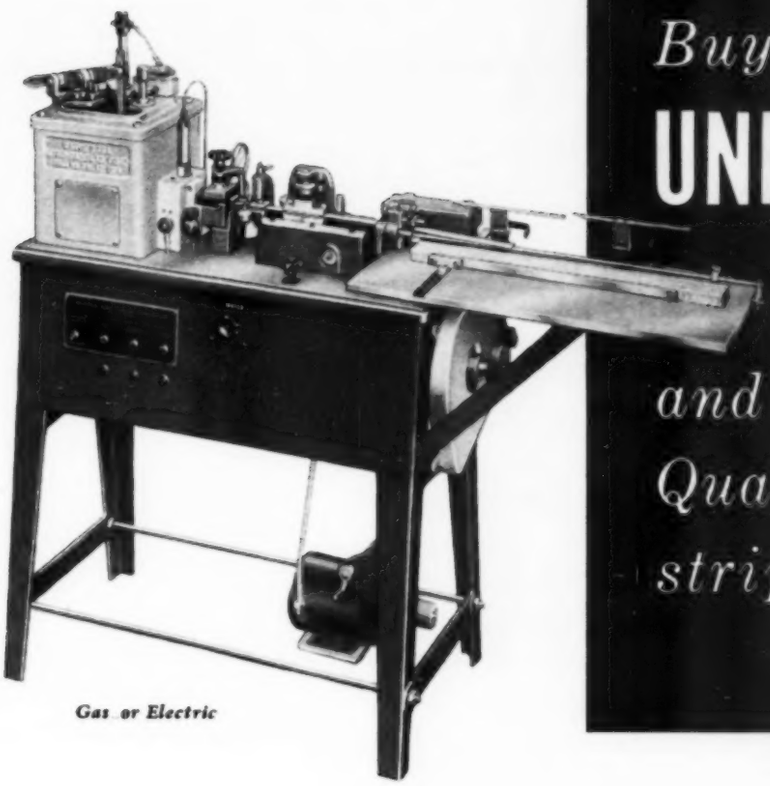
C. M. (Larry) Flint is chairman of the Committee on Engineering and Materials Handling. He stated that with respect to the materials handling objectives, the committee has been broken into three groups, Supply, Process and Dispatch. Flint announced the committee is active in the field of visual color appraisal where a task group with Phil Tobias of Edward Stern and Co. and Norman Macbeth of Macbeth Corporation are working hard to develop suitable standards for the industry, with the cooperation of the Illuminating Engineering Society. This committee also has on its agenda the study of lighting for plant departments. Another objective is to develop recommendations for Graphic Arts maintenance to correct conditions which result in unnecessary down time. The committee on cleaners and solvents in the printing industry has drafted a proposed standard for a solvent for cleaning wet inks which has been submitted to the American Standards Assoc. in an effort to have published a joint Research and Engineering and American Standards Assoc. standard. A newly formed task committee will establish specifications for the maintenance painting of Graphic Arts equipment and for the original painting of buildings in which such equipment is operated.

Efficient Materials Handling

On Thursday night, May 16, during the Research and Engineering Council's Philadelphia meeting, a session on efficient materials handling was held. Charles W. Pitkin, vice president of manufacturing, Doubleday & Company, Inc., New York, N. Y., served as chairman. On the panel with him were Peter de Florez, president, The de Florez Co., Inc., New York, N. Y.; A. Mather Reed, superintendent of the converting room, Finch & Pruyn Paper Co., Glens Falls, N. Y., and Samuel G. Yulke, president, S. G. Yulke Co., New York, N. Y. Chairman Pitkin announced the first feature would be a sound movie in color, entitled *Automation*. While the movie was not concerned with the printing industry, the viewer became highly impressed with the tremendous amount of automatic and

(*Continued on Page* 116)

This is a standing invitation to all printing plant executives to tell other readers of *Printing Equipment Engineer* about improvements devised in their plants.



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Keep Yourself Informed. The folders and bulletins listed below all pertain to modern equipment, supplies, processes and/or methods. These have been prepared especially for plant managers, superintendents and foremen. Please circle the numbers on the Reader Service Card in this issue for the bulletins you wish to receive. Drop the self-addressed card in the mail. *Printing Equipment Engineer* will forward your request.

Composing Room

SAW GUARD

Literature is available concerning the Trim-See safety guard for the composing room sawtrimmer. The two page leaflet is descriptive of Brett-Guard Co.'s transparent plastic guard. Illustrations are included. For a copy, please circle No. 306 on the Reader Service Card.

STRIP CASTER

Installation and operating instructions for gas and electric models of the Universal strip caster are contained in a 28 page booklet issued by Universal Mono-Tabular Corp. Also included in the booklet is a parts list and examples of standard rule faces. The booklet is well illustrated. For a copy, please circle No. 307 on the Reader Service Card.

DELIVERY SLIDES

Folders are available for both the Harrington delivery slide for Linotypes or Intertypes and the No-set delivery slide for quadder and job machines. The Harrington slide, manufactured by Star Parts, Inc., is said to eliminate slipping of the clamp. With the No-set slide, setting is not required with each measure change. For copies of the folders, please circle No. 308 on the Reader Service Card.

MATRIX MAINTENANCE

A booklet descriptive of Matrix Contrast Service, Matrix Contrast Corp.'s maintenance plan is now available. The plan includes both processing of new and used matrices, and reprocessing according to pre-arranged schedules. For a copy, please circle No. 309 on the Reader Service Card.

Platemaking

480 CAMERA

A two color, four page folder descriptive of the all metal Robertson Model 480 camera is available from Robertson Photo-mechanix, Inc. Both the 24 in. and 31 in. versions are illustrated and described. Specification lists and dimensions are included. For a copy, please circle No. 310 on the Reader Service Card.

CUTTING SAWS

Three Nelson cutter saws, announced by The Pate Company, are described in a six page folder. The two color piece is illustrated with saws and base cabinets. Available accessory equipment is also listed. For a copy, please circle No. 311 on the Reader Service Card.

RUBBER-THERMOPLASTIC PLATES

A revised edition of *Facts to Know About Making Rubber and Thermoplastic Printing Plates from Thermosetting Matrix Material* has been published by The Monomelt Company, Inc. Some of the subjects covered in the 16 page edition are: New methods, Monomatrix board; making thermoplastic duplicate printing plates and making rubber printing plates. For a copy, please circle No. 312 on the Reader Service Card.

Pressroom

MIEHLE PRESSES

A three color, 8 page bulletin covering the V-50 Vertical and 29 Letterpress has been published by Miehle Printing Press and Mfg. Co. The V-50 Vertical will handle a sheet size of 14 in. by 20 in. at speeds up to 5000. The 29 Letterpress will handle sheet size of 22 in. by 28 in.; speeds up to 4500. For a copy, please circle No. 313 on the Reader Service Card.

REGISTER CONTROLS

An illustrated four color brochure entitled *Crosfield Automatic Color Register Controls for Web Fed Presses* is available on request from Cline Electric Mfg. Co. In it is described the Crosfield electronic system of color register controls for use on gravure, web-fed letterpress and offset presses. For a copy, please circle No. 314 on the Reader Service Card.

BALDWIN PRESS WASHER

Illustrated literature will be sent on request about the Baldwin press washer, manufactured by William Gegenheimer Co., Inc. The washer is designed as an integral part of a press. The washer swings out to make cleaning the blade convenient. For a copy, please circle No. 315 on the Reader Service Card.

GRAVURE CONVERTER PRESS

The Champlain Company has available a booklet about its heavy duty gravure converter press. Printing width is 44 in. or 54 in. and cylinders from 20 in. to 40 in. circumference are accepted. Range of work includes printing on cellophane, paper backed foil, gift wraps, beer labels and others. For a copy, please circle No. 316 on the Reader Service Card.

NEWSPAPER FOLDER

Literature descriptive of Walter Scott & Co.'s 128 page, three to two ratio folder is now available. Features include forged alloy steel gears with all main bearings lubricated by powerdriven pumps and folding cylinders of one-piece alloy steel. For a copy, please circle No. 317 on the Reader Service Card.

ROP COLOR REGISTER

Automatic color register for ROP printing is the subject of the latest booklet released by Electric Eye Equipment Co. The Hurletron register control consists of an electronic scanner and an automatic color register. Illustrations and description is included in the booklet. For a copy, please circle No. 318 on the Reader Service Card.

MIEHLE CARTON KIT

Miehle Printing Press and Mfg. Co. offers a Carton Kit in which is contained a variety of board stocks printed in color offset. The 15⅝ in. by 19¼ in. board is lithographed with a four color ice cream carton form and folded in two, and three half-size inserts of different board stocks lithographed with a portion of the same carton illustration. Miehle offset presses are described and illustrated on the reverse side of the folder. For a copy, please circle No. 319 on the Reader Service Card.

ROP COLOR UNIT

An eight page, tabloid size newspaper has been published by the Goss Printing Press Co. descriptive of its ROP Color Unit for Cox-O-Type flatbed press. The color unit allows color to be printed on two pages of an eight page section on the press or two spot colors on one page. The press is fully illustrated and described. For a copy, please circle No. 320 on the Reader Service Card.

OFFSET PRESS

A nicely executed, six page folder, printed in three colors on heavy stock has been produced by Harris-Seybold Co. descriptive of the Harris Model 236, 23 in. by 36 in., two color offset press. Included in the folder is a pocket in which is contained a tape measure which shows press sheet size. A swatch of certified Harris Tweed is glued on one page. For a copy, please circle No. 333 on the Reader Service Card.

Bindery

PAPER CUTTERS

A specification sheet is available about Craftsman paper cutters, 26½ in. and 30½ in., manufactured by The Chandler and Price Co. Features include double, side pull-down of clamp, two handed safety controls, and separate hydraulic cylinders for knife and binder clamp. For a copy, please circle No. 321 on the Reader Service Card.

SPIRAL BINDING

A spiral semi-automatic inserting machine is the subject of a brochure released by Spiral Binding Co., Inc. The unit finishes the binding by inserting coil and trimming and turning in the binding material at both ends of the book. For a copy, please circle No. 322 on the Reader Service Card.

ROUND HOLE PERFORATOR

F. P. Rosback Co.'s Round Hole Rotary Perforator is the subject of a two page leaflet. The unit will do skip or strike perforating. Complete specifications and illustrations are included in the two color publication. For a copy, please circle No. 323 on the Reader Service Card.

Miscellaneous

STEEL FLOOR PLATE

An abrasive rolled steel floor plate for truck ramps, loading docks or wherever slipping hazards exist in a plant is the subject of a booklet released by Alan Wood Steel Co. The A. W. Algrip floor plate may be used as an overlay or as independent flooring. For a copy, please circle No. 324 on the Reader Service Card.

AUTOMATIC STRAPPING MACHINE

The USS Gerrard automatic strapping machine, Model 12, is the subject of a folder released by Gerrard Steel Strapping Div., United States Steel Corp. One of the features is two sizes for handling minimum packages 8 in. wide by 2 in. high and larger size machine with maximum capacity of 26 in. wide, by 20 in. high. Steel strapping from 14 through 18 ga. is used. For a copy, please circle No. 325 on the Reader Service Card.

ROUSE PRINTING PRODUCTS

A catalog in which is contained the H. B. Rouse & Co. line of equipment for the printing plant, has been released. Equipment such as mitering machines, lead and rule cutters, composing sticks and band saws is included. Specifications and illustrations are given. For a copy, please circle No. 326 on the Reader Service Card.

MOISTURE INDICATOR

The Cambridge Paper hygroscope for indicating difference, in terms of relative humidity, between pressroom air and paper stock, is the subject of Bulletin M-353. The bulletin,

(*Continued on Page* 113)

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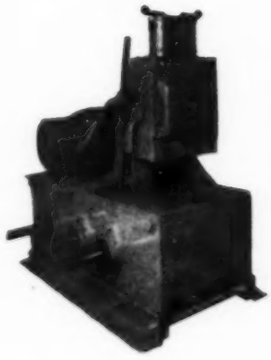

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PATENTS

For The GRAPHIC ARTS

Covering patents issued March 5, 12, 19, and 26.

All new patents for the Graphic Arts are reported exclusively for *Printing Equipment Engineer* by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. *Printing Equipment Engineer* is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Composing Room:

VARIABLE ESCAPEMENT

For displacing photographic film in photographic type composing machines, this escapement reaches a high precision by taking up any backlash which may be present. This is accomplished by means of two springs which are also used for bringing the film carriage back to its rest position after the line has been photographed. Patent 2,783,651 by Rene A. Grea, Rene A. Higonnet, and Louis M. Moyroud, assigned to Graphic Arts Research Foundation, Inc.

COMPOSING DEVICE

This compositor's gauge has an open rectangular frame and feelers mounted on two adjacent sides of the frame. These feelers are movable longitudinally and laterally of the frame to define the space within which the form is to be assembled. Patent 2,784,493 by Ralph B. Tufts, assigned to Cornelius Printing Co.

PRINTER'S CHASE

When a small printed form is to be run on a press having a large bed, this device provides for the use of a small chase which is adapted to be mounted and locked in a large chase without removing large chase from press. This eliminates the need of an excessive amount of furniture for small jobs. Patent 2,785,629 by August H. Drobis, assigned to Seelmann & Company.

NEWSPAPER TYPE CHASE

The registration of color printing plates or casts used on rotary cylinders of a newspaper printing press is facilitated by providing register marks for checking the register at any stage during the process of their manufacture. The edges of matrix can be trimmed while held in registering position. Patent 2,785,630 by Clifford W. LeGate.

PHOTOTYPESETTING JUSTIFICATION

This improved high speed positioning system automatically determines correct word spacing for line justification as a line of type is being photographically composed. It accommodates characters of different widths; insures uniform spacing throughout the composed line. Patent 2,786,400 by Walter E. Peery, assigned to Time, Incorporated.

CONTROL UNIT FOR COMPOSING MACHINES

Higher speeds are obtained by this automatic control mechanism which can be applied to existing linecasting machines. It uses a timed code changing governor controlled by a perforated tape selector mechanism. A two cycle arrangement permits the reading operation for a second character to be started before actuating function of the first character is completed. Patent 2,786,567 by Maurus T. Goetz, assigned to Teletypesetter Corporation.

CONTROL UNIT FOR COMPOSING MACHINES

This automatic tape controlled device for line composing machines uses a three-case shift control mechanism by which the case may be changed from any one of three case groups to either of the others. Reference is made to U.S. patent No. 2,091,286. Patent 2,786,568 by Maurus T. Goetz, assigned to Teletypesetter Corporation.

Platemaking:

METHOD FOR DEVELOPING ELECTROSTATIC IMAGES

This method is of especial value in the development of continuous tone images and of images containing large dark areas. There is a marked improvement in quality as well as the attainment of relatively small differences in potential. Patent 2,784,109 by Lewis E. Walkup, assigned to The Haloid Company.

PHOTOGRAPHIC APPARATUS

This camera and copyholder is pivotally movable for easy accessibility. Both units may be turned to same position for loading and unloading. It is especially useful for producing negatives and positives in various photo mechanical printing processes. Patent 2,786,384 by Reginald E. Guppy.

DEVELOPMENT ELECTRODE

The xerographic apparatus of this patent comprises a plate, a development electrode with a plurality of reversible segments, and an actuator for reversing the segments. After a cloud of developer particles is released, the electrode turns to bring the dirty face away from the plate. This prevents powder deposition on the electrode. Patent 2,784,694 by Herbert E. Crumrine and Clyde R. Mayo, assigned to The Haloid Company.

MATRIX REGISTERER AND TRIMMER

To obtain register of several matrices of a color series for stereotype plate, a table-like stand having a foraminous top is connected to a vacuum pump for securing the matrices. Register pins placed in the top indicate rela-

- *Increase Printing Production*
- *Improve Quality*
- *Eliminate Dust*

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patented

Accumulation of dirt from paper stock removed from the filter collector bag of a Doyle single Sheet Cleaner.

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tive position of the matrix by contact with cooperatively disposed register marks moulded into the matrix. Patent 2,785,747 by Clifford W. LeGate.

MULTIPLE COATED ALUMINUM PLATE

To an aluminum surface is applied a first coat of polyvinyl butyral, a second coat of a copolymer of maleic anhydride and an alkyl vinyl ether, and a third coat of a lower aliphatic acid ester of cellulose. The resulting printing plate has excellent durability and flexibility and a good bond to the aluminum is formed. Patent 2,785,993 by Walter D. Paist and Francis J. Rielly, assigned to Celanese Corp. of America.

COMPARATOR FOR STEREOTYPE MATS

In the production of printing plates for superimposing partial reproductions of like or different colors, this apparatus registers the mats prior to casting printing plates from them, thus eliminating the manual twisting of the plates while on the press. Patent 2,786,385 by Leland H. Satre and Craig C. Baker, assigned to Sta-Hi Corp.

APPARATUS FOR COATING METAL SHEETS

By this apparatus, a metal sheet to be coated may be held vertically and enclosed in a protective casing while a uniform light sensitive coating is applied to one or both sides. Drying is completed without handling of the sheet. Patent 2,786,443 by Norman B. Mears, assigned to Buckbee-Mears Co.

•

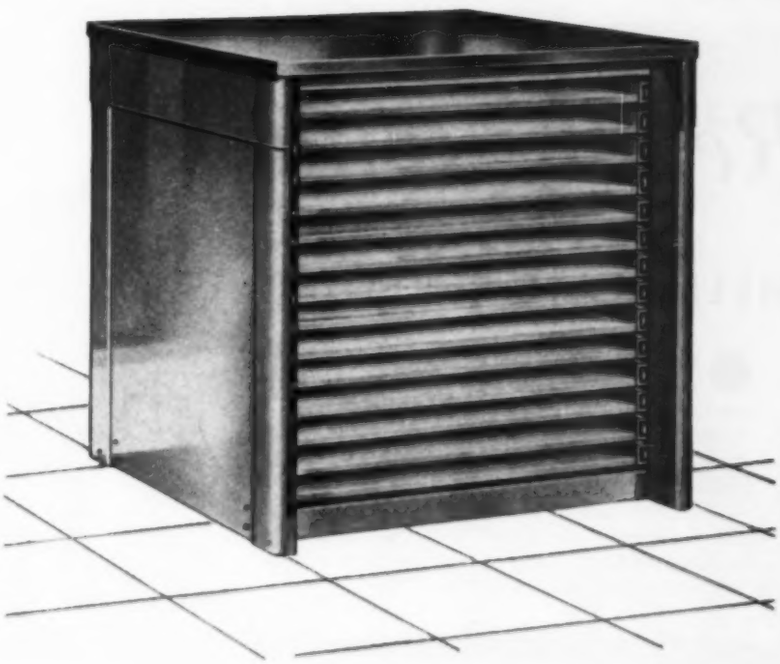
Binding, Cutting, Perforating:

CONTROL FOR MOTOR REVERSING VALVES

For controlling hydraulic paper cutting presses, this control valve automatically returns the knife bar to neutral position after each cut. Both hands of an operator are required to start the downward cutting movement of the knife at a remote location from the knife. Patent 2,785,658 by Michael E. Papanoli and

Planning for PIA Contest—Pretty Carole Feitt of the Miller Printing Machinery Co. is shown handing William G. Forster, president, Herbick and Held Printing Co., Pittsburgh, a copy of the 1957 Rules and Regulations Booklet for the Self-Advertising Exhibition and Awards competition sponsored by Printing Industry of America and co-sponsored by Miller. Herbick and Held Co. is a two time winner and one time runner-up of the contest. Deadline for entries is Sept. 13, 1957.

new letterboard cabinet by Hamilton!



Deeper body holds full-size forms • Letterboards and channel rollers for easy handling • Three-position stops prevent roll-out • Optional work top available for ad assembly.

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PRINTERS EQUIPMENT

HAMILTON MANUFACTURING COMPANY • TWO RIVERS, WISCONSIN

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James W. Lee, assigned to The Challenge Machinery Co.

•

Feeding, Folding, Delivery:

BOOK CREASING AND PRESSING MACHINE FEEDER

In the event that a book is not fully moved to transfer position, this mechanism stops automatically. It also transfers books of various sizes in vertical position, for entry into a creasing machine such as described in patent No. 2,635,262. Patent 2,785,812 by Carl Schramm, assigned to The Smyth Manufacturing Co.

PRINTING PRESS SHEET DELIVERY

This apparatus facilitates the removal of one or more sample sheets from the pile of printed sheets on the delivery board of sheet printing presses. Useful in high speed operation, it holds a number of sheets above the printed pile temporarily without disrupting the press output. Patent 2,785,894 by Robert W. Reinartz, assigned to Maschinenfabrik Augsburg-Nurnberg A. G.

•

Printing Presses:

PRINTED SHEET DRIER AND MEANS FOR LOADING

A traveling conveyor receives varnish coated printed sheets as they are discharged from a printing press. The links of this conveyor are provided with hooks which receive and suspend the wet sheets for drying. Patent 2,785,787 by William B. Leavens, jr.

WASHUP ATTACHMENT

Uniform wiping and cleaning actions are obtained by use of a U-shaped elongated blade having short resilient steel teeth capable of individual action. Angular position of the blade is adjustable, and a catch pan with contoured depression surrounds the blade to form an integral unit. Patent 2,786,413 by Raymond R. Richter, assigned to The Dayton Rubber Co.

PATENT SEARCHES

For Patent Research in the U.S. Patent Office, or a prompt estimate on any type of search, write

INVENTION, INC.
Munsey Bldg., Washington, D.C.

TRIMMED EDGE REMOVING DEVICE

Standard equipment on rotary presses is utilized to operate this drum device which removes the trimmed-off edge of a sheet of traveling paper and deposits it away from the trim knife. It has few moving parts, is small, and may be attached to any size press. Patent 2,786,673 by Lewis R. Bridenstine.

•

Miscellaneous:

OFFSET DAMPENING ROLLER COVER

This dampening roller cover is formed of tubular material with drawstring-tightened ends. The tendency to form puckering is eliminated with considerable savings in time and labor. Patent 2,784,484 by Edward J. Gay and Wilson H. Brittingham.

DYE TONED PRINTING INKS

A permanent toned effect is produced in an ink by means of a dyestuff. This ink is prepared by adding the dyestuff solution at the end of the grinding period. Patent 2,785,079 by Andries Voet, assigned to J. M. Huber Corp.

Revolutionary!

THE Carlson SHELL PLATE FINISHER

● Revolutionary indeed, the Carlson Shell Plate Finisher, figuratively and actually finishes plates from the bottom up... it outlines irregular edges and makes inside mortises faster and cleaner than ever before.

The flat cast is worked face up with the specially designed cutting tool *coming up* from *underneath*. It leaves a vertical edge with no bevel or burr.

The Locating Pin, directly above cutting tool shows exactly where cutting tool will come through plate.

Outlining: Note the clean, sharp and vertical edge of the outlined plate with *all* the chips on the discarded part.

Inside Mortises: Note the clean, exact mortise with *all* the chips on the discarded part. No burr or rough edge.

Finishes Plastic Plates, fast and clean with absolutely no danger of cracking or chipping.

PRODUCTION PRODUCTS FOR GRAPHIC ARTS

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Chemco is Curtis Agent

Chemco Photoproducts Co. was recently appointed exclusive sales agent for the complete line of equipment for newspaper ROP color platemaking manufactured by Curtis Laboratories, Inc. Equipment includes the Curtis One Shot Camera, Curtis Color Analyzer, optical printer and contact printer now being shown at Chemco's operating equipment display at 235 Fourth Ave., New York, N.Y. This same equipment will be exhibited at Chemco's Booths Nos. 98, 99, 100 at the Morrison Hotel, Chicago, during the ANPA Mechanical Conference.

Cost Cutter Saw— Announced as being available only in limited quantities the past year, C. B. Nelson Co. now states its Model B Cost Cutter Saw is in full production. Features of the heavy duty saw are: Pedestal style, ball bearing table, micro-elevating saw head, powerful workholder, large work capacity, self-contained waste truck. Circle No. 277 on Reader Service Card.

Graphic Arts Meetings

(With Organization Name and Correspondence Officer)

American Photoengravers Assoc. — 1957 Conv., Bellevue-Stratford Hotel, Philadelphia, Oct. 14-16. Exec. Secy. Frank J. Schreiber, 166 W. Van Buren St., Rm. 430-A, Chicago 4, Ill.

ANPA Mechanical Conf.—1957 Conf., Morrison Hotel, Chicago, June 10-12. Mgr. Richard E. Lewis, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute—1957 Conv., Mount Washington Hotel, Bretton Woods, N. H., Sept. 23-25. Secy. Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Educational Graphic Arts Exposition —Coliseum, New York, N. Y., Sept. 6-12, 1959. A. E. Giegengack, 5600 Massachusetts Ave., N.W., Washington 16, D. C.

Fifth District Craftsmen's Conf. — Secy.-Treas. George W. Thompson, Toledo Colortype Co., 1711 Jefferson Ave., Toledo, O.

Graphic Arts Trade Assoc. Executives—1957 Meeting, Chicago, Ill., tentative dates Oct. 12-13. Secy.-Treas. Charles P. Hackett, Memphis Printing Industries, 215 Hickman Bldg., Memphis, Tenn.

Gravure Technical Assoc. — 1958 Conv., Hotel Commodore, New York, N. Y., Feb. 26-28. Exec. Secy. Edward S. St. John Room 4800, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Mechanical Conf.—1958 Conf., Hotel Claypool, Indianapolis, Ind., Jan. 12-14. Secy.-Treas. Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press.*

Illinois Newspaper Mechanical Conf. —1957 Conf., Hotel Faust, Rockford, Ill., Sept. 28-29. Secy.-Treas. Arthur Kramer, Joliet (Ill.) *Herald-News.*

Intl. Assoc. Electrotypers & Stereotypers—1958 Conf., American Hotel, Bal Harbour, Fla., Oct. 21-24. Exec. Secy. Floyd C. Larson, 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen—1957 Conv., Statler Hotel, Buffalo, N. Y., Aug. 4-7. Exec. Secy. Pearl E. Oldt, 411 Oak St., Cincinnati 19, O.

Intl. Graphic Arts Education Assoc. —1957 Conv., Rochester Institute of Technology, Rochester, N. Y., July 28-Aug. 2. Exec. Secy. Samuel M. Burt, 5728 Connecticut Ave., N. W., Washington 15, D. C.

Intl. Printers Supply Salesmen's Guild—1957 Conv., Statler Hotel, Buffalo, N. Y., Aug. 4-5. Secy. Francis J. Tominey, *New England Printer & Lithographer,* 470 Atlantic Ave., Boston 10, Mass.

Intl. Typographic Composition Assoc. — 1957 Conv., Hotel President, Kansas City, Mo., Sept. 18-21. Exec.

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Secy. W. E. Switzer, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conf.—Secy.-Treas. Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas-Missouri Newspaper Mechanical Conf.—1957 Conf., Town House Hotel, Kansas City, Kans., Sept. 7-8. Kansas Secy.-Treas. Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kans. Missouri Secy.-Treas. William A. Bray, Missouri Press Assoc., 220 Walter Williams Hall, Columbia, Mo.

Lithographers National Assoc., Inc.—1958 Conv., Arizona-Biltmore Hotel, Phoenix, Ariz., Apr. 28-May 1. Exec. Div. W. Floyd Maxwell, 381 Fourth Ave., New York 16, N. Y.

Mid-Atlantic Newspaper Mechanical Conf. — 1958 Conf., Penn-Sheraton Hotel, Pittsburgh, March 13-15. PNPA General Mgr. Richard Dew, 2717 N. Front St., Harrisburg, Pa.

National Assoc. of Litho Clubs—Exec. Secy. Eugene Hanson, 4440 Bessie St., St. Louis 15, Mo.

National Assoc. of Photo-Lithographers—1957 Conv., Chase-Park Plaza Hotel, St. Louis, Mo., Sept. 11-14. Exec. Dir. Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Paper Trade Assoc.—1957 Meeting, Conrad Hilton Hotel, Chicago, Sept. 16-18. Secy. J. H. Londergan, 220 E. 42nd St., New York 17, N. Y.

National Printing Equipment Assoc., Inc.—1957 Conf., Hotel Morrison, Chicago, Oct. 15-16. Secy. James E. Bennet, 140 Nassau St., New York 38.

National Safety Council Printing and Publishing Section—1957 Conf., Conrad Hilton Hotel, Chicago, Oct. 23-24. Staff Rep. Arthur Siedlecki, National Safety Council, 425 N. Michigan Ave., Chicago 11.

New England Composing Room Executives Assoc. — 1957 Conf. Ellis Hotel and Winding Brook Motel, Keene, N. H. May 18-19. Secy, Lewis R. Greene, Westerly (R.I.) *Sun.*

New England Newspaper Mechancal Conf.—1957 Conv., Hotel Statler, Boston, Mass., Oct. 19-20. Secy.-Treas. Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day.*

New York State Capital District Mechanical Conf.—Dir. Floyd Laurenty, Albany (N. Y.) *Times-Union.*

Northwest Mechanical Conf. — 1958 Conf., Radisson Hotel, Minneapolis, Minn., Feb. 22-24. Secy.-Treas. Ralph N. Carson, Linecasting Instructor, Dunwoody Industrial Institute, 818 Wayzata Blvd., Minneapolis, Minn.

Pacific Newspaper Mechanical Conf., —1957 Conf., Multnomah Hotel, Portland, Ore., Aug. 23-25. Secy. Donald Newhouse, Prod. Mgr., The Portland (Ore.) *Oregonian.*

Packaging Institute Assoc. — 1957 Forum, Hotel Statler, New York, N. Y., Oct. 28-30. Exec. Dir. Chas. A. Feld, 342 Madison Ave., New York 17, N. Y.

Printing Industry of America—1957 Annual Conv., Morrison Hotel, Chicago, Ill., Oct. 14-18. Gen. Mgr. Bernard Taymans, 5728 Connecticut Ave., N.W., Washington 15, D. C.

Research and Engineering Council—1958 meeting, Edgewater Beach Hotel, Chicago, May 14-16. Managing Dir. Robert E. Rossell, 5728 Connecticut Ave. N.W., Washington 15, D.C.

ROP Color Conf.—1957 Conf., Sheraton Hotel, Chicago, Sept. 23-25. Secy. H. J. Prag, Room 520, 333 N. Michigan Ave., Chicago 1.

SNPA (Western Div.) Mechanical Conf.—Secy. Walter Johnson, jr., P.O. Box 1569, Chattanooga 1, Tenn.

Southern Graphic Arts Assoc.—Secy. Charles E. Kennedy, 1514 South St., Nashville 2, Tenn.

Screen Process Printing Assoc., Intl. —1957 Conf., Sheraton-Cadillac Hotel, Detroit Mich., Oct. 26-28. Exec. Secy. Robert H. Blundred, 549 W. Randolph St., Chicago 6.

SNPA (Eastern Div.) Mechanical Conf.—1957 Conf., Dinkler Tutwiler Hotel, Birmingham, Ala., Aug. 18-20. Secy. John A. Hogg, Southern Newspaper Publishers Assoc., P.O. Box 1569, Chattanooga 1, Tenn.

Technical Assoc. of the Graphic Arts —1958 Conv., Beverly-Hilton Hotel, Los Angeles, June 23-26. Secy.-Treas. B. L. Sites, Miehle Printing Press & Mfg. Co., 2011 W. Hastings St., Chicago 8.

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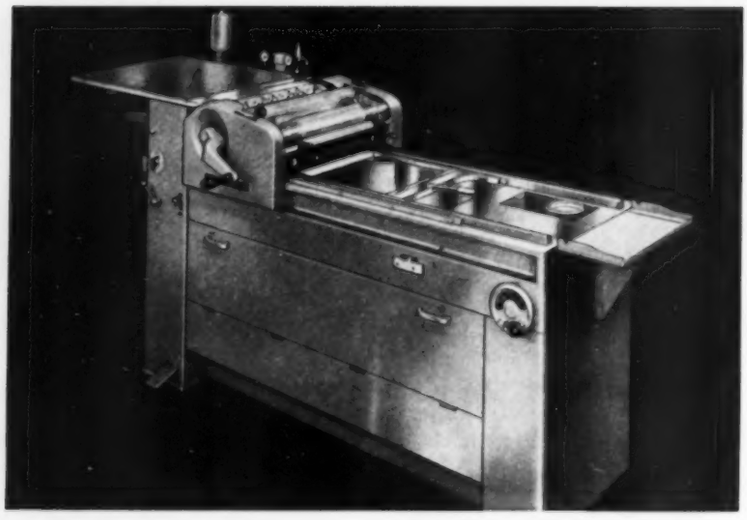
An entirely new design—with many important features



ADJUSTABLE BED—*with which exactly the right impression can be obtained of plates or forms on the bed or on galleys.*

INK FEED—*which feeds ink automatically direct from a standard ink can.*

SPRAYSET—*to automatically spray sheets with an ink setting solution immediately after printing.*

PLASTIC COVERED INKER—*a hinged plastic cover protects operator from power driven inking rollers and keeps them dust free.*

SHORT CYLINDER TRAVEL—*makes it unnecessary to travel the cylinder the full length of the bed when proving short forms.*

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News ITEMS

Battelle Vice President—Election of Edward E. Slowter as vice president of Battelle Institute was announced recently by Clyde Williams, president. A member of the Institute's technical and executive staff since 1936, Slowter was formerly secretary and business manager.

New Photon VP—Earl N. Godshall has been elected vice president-sales of Photon, Incorporated, manufacturers of the Photon phototypesetting machine, announces W. W. Garth, jr., president. Godshall was formerly manager of the Fotosetter Field Div. of Intertype Corp. He joined Intertype in 1949. He will be responsible for Photon sales, installation and utilization.

GODSHALL

Carter Is Fairchild President—Elected president of Fairchild Camera and Instrument Corp. is John Carter, former vice president of Corning Glass Works. He succeeds Sherman M. Fairchild, founder and chairman of the board, who had been serving as president since the resignation of John H. Clough.

Two Standard Register Appointments—Thomas M. Schiewetz and James T. Kerlin have been named respectively Midwest Division manager and Midwest Division plant superintendent at Fayetteville, Ark., for The Standard Register Co. Schiewetz, who has been with Standard Register since 1948, was formerly administrative assistant to the executive vice president and general manager. Kerlin joined the company in 1950 and was formerly assistant to the vice president of manufacturing.

SCHIEWETZ KERLIN

Clement D. Ketchum, 57, advertising manager of the Hamilton Manufacturing Co. since 1952, passed away in Two Rivers, Wis., April 26. He is survived by his wife, daughter, Judy Anne, and a son, Clement D. Ketchum, jr.

George W. Anger was recently appointed vice president in charge of sales management for Central Newspaper Installations, Inc., it was announced by Harry Meyerson, president of the firm. Anger comes to Central from R. Hoe & Co.

ANGER

Sun Chemical Moves—Plans to move administrative and executive activities of Sun Chemical Corp. to New York, N.Y. from Long Island City, N.Y. have been announced by Pres. Norman E. Alexander. Sun Chemical will occupy approx. 42,000 sq. ft. in a 34 story building being erected at 750 Third Ave. Manufacturing and research activities will not be affected.

Curle Honored at Dinner—The "grand old man" of the Northwest Mechanical conference, George Curle, was honored by the Linecasting Machinists club of the Twin Cities (Minneapolis-St. Paul)—an organization which he helped found, at a testimonial dinner marking his retirement on March 31. Curle has been chief composing machinist at the Minneapolis (Minn.) *Star* and *Tribune*. Honoring him for his 52 yrs. in the industry were 34 old friends. Acting as master of

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ceremonies was Joe Cory of the St. Paul (Minn.) *Dispatch* and *Pioneer Press*. Curie is inventor of the Monomelt. He was presented with a plaque and a tie clasp.

Promotion of Richard E. Moehrle to production industrial engineering supervisor, printing products division, has been announced by Minnesota Mining & Mfg. Co. Moehrle joined 3M in 1955 as a production industrial engineer.

Thomas A. Pape, 59, died in Newark, N.J., April 29. Pape was largely credited with introduction of the Heidelberg platen press into the Eastern part of the United States 30 yrs. ago. Pape was a past president of the Newark Club of Printing House Craftsmen.

KATZ

A. E. Katz, assistant to the night mechanical superintendent of the New York (N.Y.) *Times* spent a week at Rochester Institute of Technology, Rochester, N.Y., reviewing with Printing Department and Graphic Arts Research personnel various developments in printing. Katz also visited the Rochester (N.Y.) *Times-Union* plant and Eastman Kodak Co. Similar intensive courses have been given by RIT to management personnel from the New York *Times* and other newspaper and commercial printing companies.

James F. Fox Promoted—Promotion of James F. Fox to Boston branch sales supervisor, printing products division, has been announced by Minnesota Mining & Mfg. Co. He will be responsible for 3M printing products sales in the New England states and in upper New York.

Karl Nibecker, 71, president of the Imperial Type Metal Co. died on May 11 in the University of Pennsylvania Hospital, Philadelphia. After joining Imperial he built and became manager of its Cleveland plant in 1916 and later built the Chicago plant and became its manager. He became president of the Imperial Type Metal Co. in 1941 upon the death of that company's founder.

BLAND

RPA Officers — John A. Bland of Walthall Printing Co., Richmond, Va., has been elected president of Richmond Printers' Assoc., Inc. succeeding E. Frantz Hershey. Other officers include James T. Lewis III, Lewis Printing Co., first vice president; McLean Whittet, jr., Whittet & Shepperson, second vice president; and Emil J. Gasser, Gasser Printing Co., secretary-treasurer.

Dow's Basmajian on East Coast — James Basmajian, salesman for The Dow Chemical Co., has been transferred from Midland, Mich., to Dow's New York, N. Y., office. Basmajian joined Dow in 1954.

New Miehle - Goss - Dexter Office — Miehle-Goss-Dexter, Inc. announced the opening of new offices and salesrooms at 595 Wimbledon Rd., Atlanta, Ga. Machines will be displayed in the demonstration rooms and the office will serve as sales and service headquarters for the Southeastern states.

STEWART

W. Earl Stewart has been named chief engineer, product, for The Standard Register Co., Dayton, O., as announced by John T. Davidson, vice president of engineering and research. Stewart joined Standard Register in 1956 and was formerly director of engineering at Maico, Incorporated, Minneapolis, Minn.

Pennington Elected President—Robert B. Pennington, jr., vice president and general manager of Merrick Lithograph Co., Cleveland, O., was elected chairman of the board and president of the firm. He succeeds Frederick A. Merrick who was president while the firm was a subsidiary of A. S. Gilman, Inc., Cleveland. A group headed by Pennington has pur-

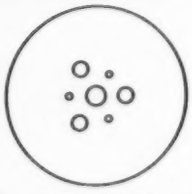
Carbide!

GAY-LEE PRINTERS'

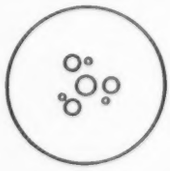
"Carbide Thinsaw"

Patented Carbide Tips Cut Base, Slugs and New Alloys Including Dowmetal

The famous, long-lasting Gay-Lee Carbide "Thinsaw" is "standard" in many large composing rooms . . . and there are good reasons why it should be in *yours*, too. This saw design with more teeth gives you cleaner cuts, freedom from burrs, excellent back rake cutting . . . without scream, pileup or sticking. It eliminates need for trimmer blades. Patented design holds carbide tips firmly against side thrust, while extra strong braze secures them for life. These saws outlast all others, soon pay for themselves. Just $39.50.



Type A Printers' "Thinsaw" 7" Diameter, 40 teeth, for Hammond Saws



Type B Printers' "Thinsaw" 6" Diameter, 36 teeth, for J. A. Richards, Nelson, C. & G., Morrison, Nolan, etc. saws

TRY IT FREE FOR 30 Days!

Yes, try a Gay-Lee Carbide "Thinsaw" at our risk for thirty days. If not completely satisfied with the saw's performance, just return it for full credit. You can't go wrong, so *act now!* (IMPORTANT: *Specify make of machine on which saw is to be used.*)

GAY-LEE COMPANY

CLAWSON • MICHIGAN

For More Information Circle 54 on Reader Service Card

chased the company. Merrick is a producer of lithography and designer of point-of-purchase display materials.

Hoe Sales Vice President—McHenry Browne, former general manager of the Boston (Mass.) *Post*, was appointed vice president of press sales of R. Hoe & Co., Inc. A 34 yr. veteran in the newspaper business,

BROWNE

DURANTE

Browne has been business manager of the Albany (N.Y.) *Times-Union*, Pittsburgh (Pa.) *Sun-Telegraph*, Chicago (Ill.) *Evening American* and Chicago (Ill.) *Herald-Examiner*. Before joining the Boston *Post*, he was assistant general manager of *The American Weekly*. Other Hoe appointments are: Walter C. Cooper, vice president, will now represent the president on special assignments; Arthur J. Durante, 25 yrs. with Hoe, was named vice president of press manufacturing; W. C. Wieking was named assistant vice president and manager of field engineering; W. W. Henderson is now assistant vice president of press sales; assistant controllers named were R. P. Hollister and Arthur Gordon.

Visitor from Australia—A. J. Arthur (at left), Commonwealth Government Printer of Canberra, Australia, recently spent about three months on a globe circling tour. He visited Germany, Holland, France, Sweden, the United States and the United Kingdom countries including Canada. While in the United States he visited the Government Printing Office where he was a guest of U.S. Public Printer Raymond Blattenberger (at right).

He also visited in New York, Cleveland (where he paid a visit to the offices of *Printing Equipment Engineer*), Chicago and West Coast cities. He was investigating Graphic Arts architecture, equipment, processes and methods, especially in the United States.

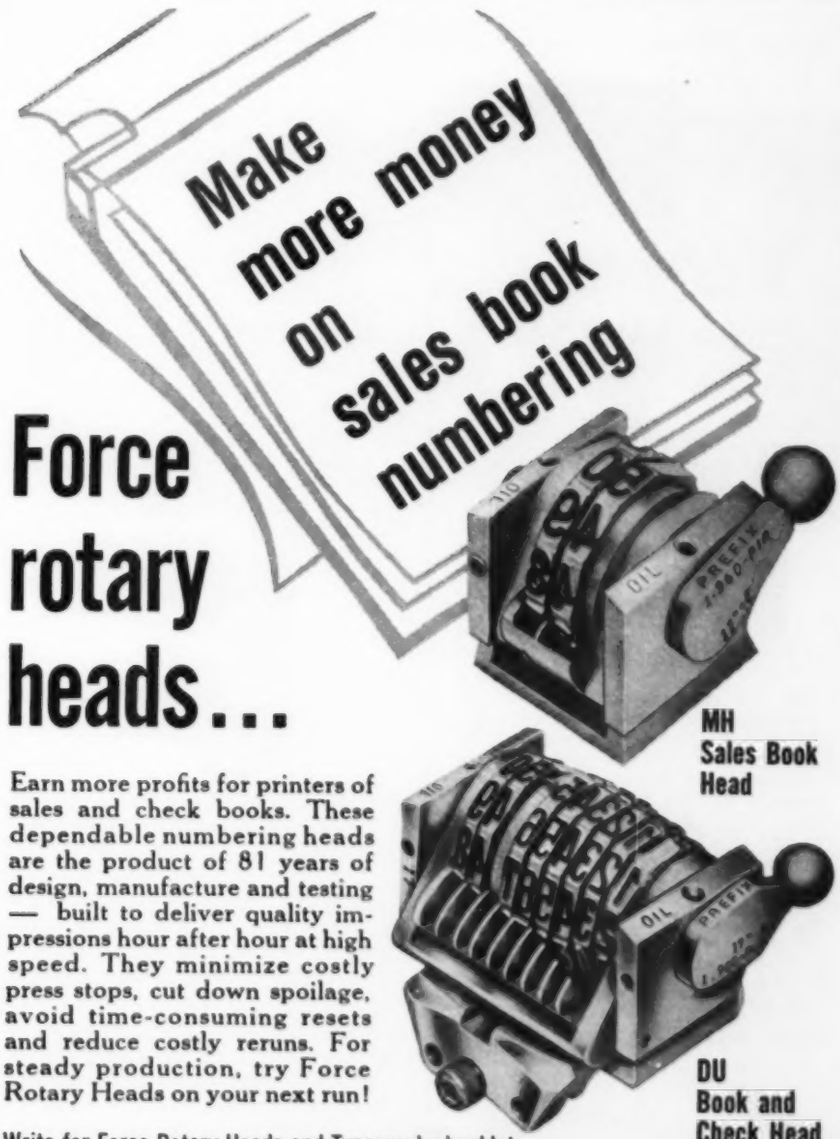
Champion Paper President—The board of directors of The Champion Paper & Fibre Co. recently elected Reuben B. Robertson, jr., as president. Robertson recently resigned the post of deputy secretary of defense and previous to that was president of Champion. He succeeds his father who resigned as president but retains his position as chairman of the board.

Jomac Promotes Evo—John A. Evo has been appointed New York sales manager by Jomac Incorporated. Eric A. Engdahl was named sales representative with headquarters in the New York office.

Robert H. Caffee, past president of Printing Industry of America, Inc., of and president for some time past of the William G. Johnston Co., Pittsburgh, died April 13. He was president of PIA 1950-51. Caffee was a principal proponent of the Association's Management Services.

HOLDERFIELD

Linotype Representative — Garland R. Holderfield, production engineer with the Atlanta, Ga., agency of Mergenthaler Linotype Co., now represents the company in Kentucky and all of Tennessee west of Chattanooga. He was formerly with the E. T. Lowe Publishing Co., Nashville, Tenn., and joined Linotype in 1956.



Earn more profits for printers of sales and check books. These dependable numbering heads are the product of 81 years of design, manufacture and testing — built to deliver quality impressions hour after hour at high speed. They minimize costly press stops, cut down spoilage, avoid time-consuming resets and reduce costly reruns. For steady production, try Force Rotary Heads on your next run!

Write for Force Rotary Heads and Typographs booklet.

WM. A. FORCE & CO., Incorporated
216 Nichols Ave.
Brooklyn 8, N.Y.

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Equipment and Supplies

(Continued from Page 48)

for use with the Nolan 1 T. model furnace. Dead metal is dumped into a Nolan chip buggy and rolled aboard the Melt-Lift cradle. On pressing a button, the buggy is hoisted on the elevator to furnace height and dumped. Unit requires less than 4 sq. ft. of floor space. Safety precautions include a limit switch which prevents hoist from going beyond the proper point, and motor brake which locks the truck in position. For further information, please circle No. 266 on the Reader Service Card.

Transparent Tape

Rajah Brand is the new trademark for the polyethylene cellophane transparent tape formerly known as tape No. 66, manufactured by General Tape Corp. Rajah tape consists of 60% polyethylene and is said to be resistant to normal atmospheric changes. The tape is available in 2592 in. length commercial size rolls in widths of ⅜ in., ½ in., ¾ in., and 1 in. For further information, please circle No. 273 on the Reader Service Card.

White Light Stroboscope

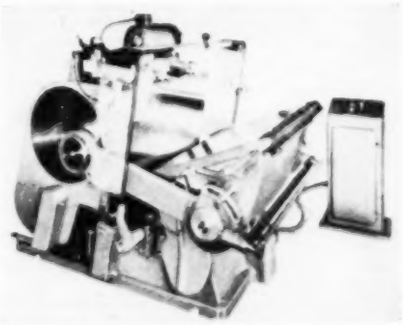
Western Gear Corp., Electro Products Div., recently announced its portable high intensity white light stroboscope. The device can be set up on a press or packaging and production machinery and synchronized so that any moving part of the machine is visible and appears stationary. In this way, printed forms, register, ink flow, etc., can be observed in color while press is in operation. Specifications are: 10 sec. flash duration; light output, 5 Lumen sec. per flash; repetition rate of 0 to 100 pulses per sec.; dimensions, 6 in. wide, 5 in. high, 5¾ in. deep. For further information, please circle No. 259 on the Reader Service Card.

Quickset Ink in Cartridges

The Van Son Holland Ink Corp. of America recently announced that it is now packaging its Quickset black ink in metal cartridges, lithographed in black and red. These cartridges are used in the Holland ink gun for the duplicating trade. The firm also packs all 40 of its standard colors in cartridges. The cartridges can be used interchangeably in one gun. For further information, please circle No. 261 on the Reader Service Card.

Cutting, Creasing and Embossing Press

Gane Bros. & Lane Inc. recently announced its modified Crosland cutting, creasing, scoring, perforating hot or cold embossing press which is now electrically operated. Features



are: Pushbutton starting; balanced guard rail; and single impression or continuous run. Inside chase dimension sizes are 15 in. by 24 in., 22 in. by 30 in., 25 in. by 35 in., 30 in. by 41 in. or 34½ in. by 49 in. For further information, please circle No. 254 on the Reader Service Card.

Letterpress Roller

A letterpress roller for job and commercial printing, which is said to resist glazing, has been introduced by the Dayton Rubber Co. Adaptable to all letterpresses, the roller is said to feature ink stability, low absorption and low extraction. Good washing and printing characteristics are claimed to be the result of special rubber

here's how Rouse REDUCES YOUR TIME COSTS

CUT A FULL GALLEY OF MIXED MEASURES SLUGS IN ONLY 35 SECONDS

Rouse BAND SAW

No more gauge setting! No more reclamping or measuring! That's why the Rouse Band Saw offers you by far the most economical way to accurately cut slug lines to different measures in the shortest possible time. No other machine nor method can even come close to this achievement.

If you operate one or more linecasting machines on variable measure composition, the Rouse Band Saw will do the work of hours in minutes. Expensive time saved will be unusually great in work requiring frequent changes in line measures, such as ad work, catalog runaround work, etc.

NEW ROUSE CATALOG

Write for your copy TODAY!

CUT 1000-1200 ACCURATE MITERS IN ONLY 1 HOUR

Rouse POWER MITERER

If you need miters in either small or large quantities, no other machine nor method can turn out anywhere near as many perfect joining miters from strip material. That's how the Rouse Power Miterer can slash your time costs by doing work in minutes that now takes hours. It quickly pays for itself in expensive time saved.

From the smallest job shop up to the largest plant, only Rouse makes a Power Miterer for every type of use. Can be bought as a bench model or with any other equipment you wish.

Virtually every printing plant in the world uses one or more Rouse Time-Saving Products for Printers

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MITERING MACHINES
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COMPOSING STICKS
TYPE GAUGES
SLUG CLIPPERS
BAND SAWS

ROUSE PRODUCTS—THE STANDARD OF THE WORLD FOR 50 YEARS

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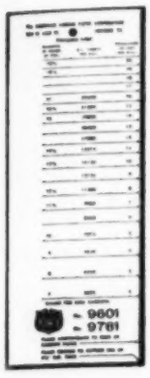
compounding. The rollers are designated Tru-Tac. For further information, please circle No. 260 on the Reader Service Card.



Measurement of one-time carbon paper remaining on partly used rolls can now be determined with a gauge offered by The American Carbon Paper Corp. Gauge is printed on two sides of white stock, with arrows designating various measurements along one edge. Three columns of figures show diameter in inches of carbon paper rolls, number of 8½ in. tickets, and thousand of feet of carbon per roll. One side of the gauge is used to measure Tara one-time carbon numbers 9601 black and 9761 blue. Other side shows information for Tara 3030 black and 2020 blue. For a gratis copy, please circle No. 269 on the Reader Service Card.

Enlarger for Color Material

J. G. Saltzman, Inc., sales distributor for Caesar Manufacturing Co., Inc., recently announced the Caesar Enlarger 30WABHTM for type C Eastman Kodak color material. In the accompanying illustration is shown a horizontal enlarger; vertical

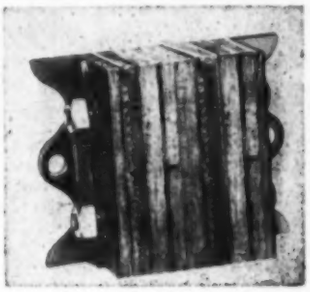
is also available. Inset in the illustration shows the individual light control which is said to eliminate hand dodging. Enlarger is equipped with a variac, step-up transformer, and voltmeter enabling control to any light problem. Model shown in illustration is for 8 in. by 10 in. to 4 in. by 5 in. Different focal length lenses can be used. For further information, please circle No. 253 on the Reader Service Card.

Marking Material for Ad Plates

A liquid dye called Ad-Mark for marking ad plates cast from mats will be distributed by Star Cement Co. The dye is available in three colors, red, blue and green, for coding purposes. Ad-Mark is said to resist all ordinary type cleaners and will not transfer from the plate to the stereotype mat. For further information, please circle No. 278 on the Reader Service Card.

Truck Bumpers

Rubber-coated fabric truck bumpers, designed for mounting on a truck



body to prevent damage to trucks, buildings and loads, are being manufactured by Bumpers, Incorporated. Known as Flex-O-Rubber Truck Bumpers, they are said to absorb impact. Construction of the bumpers allows reversing the fabric for further use. The bumpers are available in three styles, designed for truck bed platforms and I.C.C. frames. For further information, please circle No. 256 on the Reader Service Card.

Roll Stand for Splicing

An electronic unwind roll stand for automatic splicing has been introduced by Parsons & Whittemore Graphic Corp. Adaptable to any web fed press, the roll stand features star type roll arms that rotate au-

NOW!
TWO ROUSE TIME-SAVING
PLATE SAWS
With Exclusive Automatic Feed
For Photoengravers,
Stereotypers, Printers

No more manual squaring up, guesswork alignment, tacking, scoring, beveling, trimming, removing burrs, using wedges. That's how a Rouse Plate Saw soon pays for itself.

Just make 4 quick, easy, automatic saw cuts and your plate is ready for the printer. The *exclusive* automatic feed guarantees each cut to be perfectly square, smooth-edged and uniform on any copper, zinc, magnesium or plastic plate, whether wood or plastic mounted or shellcast.

Cuts are made to Picas, Points, Quarter Points or Inches as required. Outside Mortising is effectively done to pica and point measurement.

NEW 24" MODEL—automatically cuts up to 24" of type-high work in only 27 seconds.

15" MODEL—identical to 24" Model except it automatically cuts up to 15" of type-high work in only 17 seconds.

BOTH MODELS occupy only 26" x 26" floor space.

NEW FEATURES (on Both Models)

1. Now you can make *cuts as small as 1 Pica square* for signatures, key letter or number changes, etc.
2. *Narrow Cut* measures about 2 points (.028"), permitting cutting between type lines.
3. Saw blades are changed in just 1 minute due to new lever-operated tension release. Blades stay sharp during 30-40 hours continuous operation. New blades are inexpensive.
4. New simplified gauge adjusting device makes it easier to maintain perfect squareness in cutting.

DESIGNED BY MEN WITH 25 YEARS KNOW-HOW IN BUILDING BAND SAWS FOR PRINTERS

Write for complete details TODAY!

H. B. ROUSE & COMPANY
7214 North Western Avenue Chicago 45 Illinois

ROUSE PRODUCTS...The Standard of the World Since 1899

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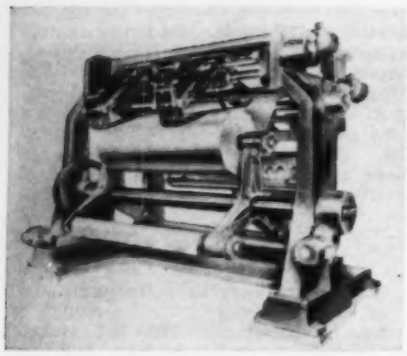


tomatically when the expiring roll reaches a predetermined minimum diameter to effect the splice at full press speeds. Another model of the roll stand is for semi-automatic splicing at speeds up to 400 ft. per min. It is available in widths up to 48 in. For further information, please circle No. 257 on the Reader Service Card.

Stereo Mat Registering Machine

A new machine, called the Goss Tru-Register, designed for registering stereotype mats to be used in black and ROP color printing before casting, has been announced by Goss Printing Press Co. According to C. S. Reilly, vice president-sales, the unit will be shown for the first time at the ANPA Mechanical Conference, Morrison Hotel, Chicago, June 10-12.

The Tru-Register machine is recommended by Goss for use in conjunction with its Plate Perfector and Tension Miller. The three machines are designed to eliminate errors in the steps from the stereo mat to the final registering of a set of color plates for the press.

Essentially, the system consists of visually registering each successive mat of a color set to selected image areas on the key mat. The mat is held securely on an adjustable vacuum table, and is brought into register with the image of the key mat

as recorded on a vinyl sheet. Adjustable handwheels provide movement of the table top in all directions, to assure accurate register of each mat. When in register each mat is punched with locating notches. Each mat is then always located positively to the centerline of the casting box. This, claims Goss, results in uniform plates.

Advantages of the Tru-Register system claimed by Goss include makeready savings, ROP color printing improvement and stereotype department efficiency. For further information, please circle No. 276 on the Reader Service Card.

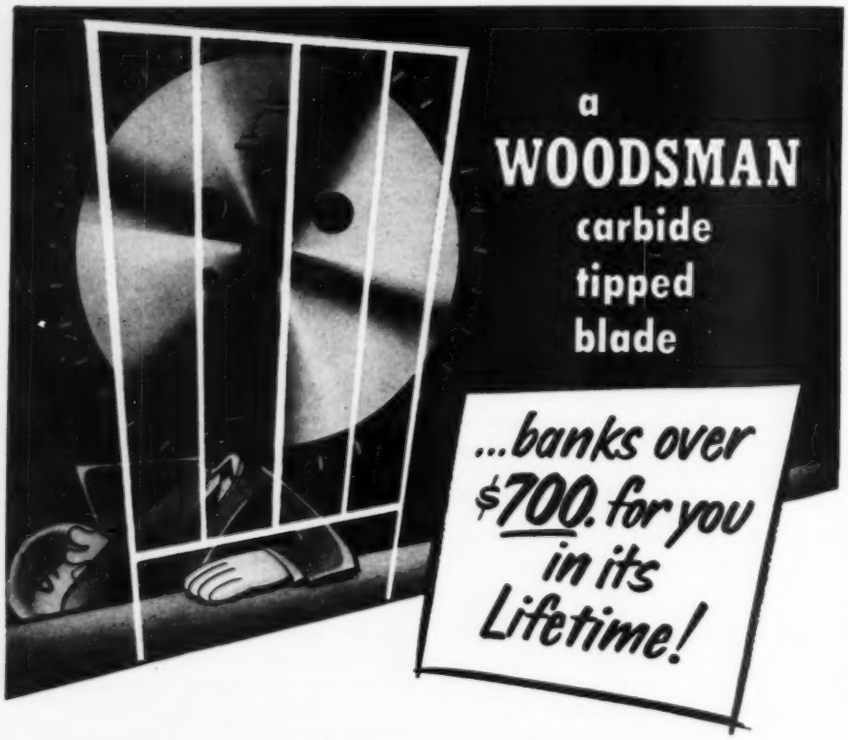
Sam'l Bingham Contest

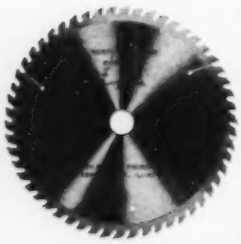
Sam'l Bingham's Son Mfg. Co. announces an $8000 prize contest open to everyone in the Graphic Arts industry, starting May 1, 1957. The grand prizes are: (1) Free vacation trip for two to Paris, via Air France Airways, plus $300 cash to spend, (2) One week vacation trip for two to Bermuda, plus $200 cash to spend, and (3) Vacation trip for two to Nassau, plus $200 cash to spend.

BUTLER

There are 50 other prizes ranging from Admiral color TV sets and Polaroid cameras to Waltham watches and pocket size Admiral transistor radios.

"Everyone who enters the contest," says Kenneth Butler, Bingham's vice president and sales manager, "gets a chance to win one of the prizes by completing one unfinished sentence (about rollers)."





Made by the oldest manufacturer of carbide-tipped saws specifically for the Graphic Arts industry — offer you savings in operation and maintenance no plant can afford to overlook. Statistics from commercial printing firms prove that through the seven year average life of a Woodsman carbide-tipped blade you save over $700.00 in costs you would pay for new blades and maintenance of other type saws. All this PLUS finer, smoother burr-free cuts. Write NOW for details, brochure, demonstration. Remember — you bank what you save!

NORTH AMERICAN PRODUCTS CORP.

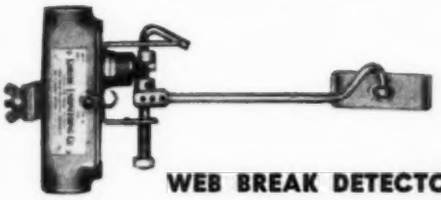
P. O. Box 201 C Edwardsville, Ill.

For More Information Circle 186 on Reader Service Card

Cooksey System of

WEB CONTROL

EQUIPMENT DESIGNED TO COMPLETELY PROTECT YOUR PRESS WHEN A WEB BREAKS . . . INSTEAD OF MERELY STOPPING IT!



WEB BREAK DETECTOR

- Precise and quick acting to stop press instantly at the time of a web break.
- Has running position, threading position and two lock-out positions.
- Press cannot be operated at high speed unless shoes are in operating position.
- Can be mounted in any and all positions in press.
- Shoe pressure and range of operation can be easily adjusted for any web condition.

TROLLEY

- The most outstanding advancement made in web break detector systems in recent years. It prevents the web, after the impression, from lashing back and wrapping around the printing cylinders.
- The Cooksey System is the only system that provides this feature, therefore it is the only system that can actually prevent damaging wrap-ups due to web breaks.

WEB SEVERING DEVICE

- It is compact, and the action is positive and instantaneous.
- Cuts completely across the whole sheet.
- Clean cut web comes out of printing unit at time of a web break instead of ragged tails or loose pieces that may cause additional delay.

SALES AGENTS:
THE GOSS PRINTING PRESS CO., CHICAGO
R. HOE & CO., NEW YORK
WOOD NEWSPAPER MACHINERY CO., NEW YORK
CLINE ELECTRIC MFG. CO.

For Information Write To

KORTHE ENGINEERING CO.
9353 SEYMOUR AVENUE
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PROFESSIONAL INTEGRATED APPROACH

. . . planned to meet your requirements while relieving your mechanical staff of design and construction problems.

Publishing business managements can find substantial advantage in the services of Professional Engineers. The Engineer's approach is scientific. His sole concern is the best interest of the client.

OUR STAFF

An integrated engineering organization, including a group experienced in printing problems, backed by a complete staff of Engineers, Architects, Project Managers, Construction Supervisors, Procurement and supporting service personnel.

. . .

OUR SERVICES

1. Investigations of plant sites.
2. Analysis of existing operations.
3. Reports on design and estimates of cost for new departments, plant additions and new plants.
4. Complete plans and specifications.
5. Procurement of materials and equipment.
6. Supervision of Construction and Equipment Installation.

We are Professional Engineers and represent our clients as construction supervisors — we are not builders or construction contractors. Our only interest in processes, equipment and materials is the best interest of our clients.

CHAS. T. MAIN, INC.
CONSULTING ENGINEERS SINCE 1893

BOSTON, MASSACHUSETTS • CHARLOTTE, NORTH CAROLINA

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Equipment Sales and Installations Reports

Brett-Guard Installations

Some recent installations of Brett-Guard Co.'s TenSee plastic stereo saw guard on job shop stereo saws are as follows: Amsterdam (N.Y.) *Evening Record*, Detroit (Mich.) *News*, Hartford (Conn.) Courant Publishing Co., Houston (Tex.) *Chronicle*, Indianapolis (Ind.) *Star-News*, New London (Conn.) *Day*, New York (N.Y.) *Daily News*, New York (N.Y.) *Post*, New York (N.Y.) *Times*, Richmond (Va.) *Times Leader*, Rome (N.Y.) Sentinel Co., Sharon (Pa.) *Herald*, Trenton (N.J.) *Times*, Toronto (Ont.) *Star*, York (Pa.) *Gazette & Daily*, and Hamilton (Ont.) *Spectator*.

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Balemaster Installed

Hilary Raab, president of East Chicago Machine Tool Corp. announced the sale by its Balemaster Division of a Cyclomatic scrap paper handling and baling system to Kingsport Press, Inc., Kingsport, Tenn., producers of hard cover books. The Cyclomatic system will discontinue manual handling of waste and is said will produce 20 bales of about 1000 lbs. each as compared with 80 bales under the previous system.

Mergenthaler Installations

The St. Petersburg (Fla.) *Independent* is now using Mergenthaler Linotype's 5½ pt. Teletype Corona on 5 pt. slug in its classified pages. The switch to the new type face was made when the width of the classified columns was reduced from 11½ to 11 picas.

Also announced was the Detroit (Mich.) *News* has installed three additional Linotypes; a Linotype Comet and two Model 29 Mixer Linotypes. The Comet will be used for setting classified, market and news composition, while the two Model 29 Mixer Linotypes will be used to set mixed cut lines, classified display and agate, and regular news matter.

Mergenthaler Linotype's 10 pt. Times Roman was chosen as the new body type for *The Iron Age* trade magazine. Other changes in the magazine included a revamping of the editorial page, the news section and the News Analysis columns.

•

Beard Installations

Cleveland *Plain Dealer* has installed 96 Dural aluminum chases, manufactured by Beard Newsprint & Warehouse Co., Inc. Mexico City Periodicos Garcia Valseca, a group of 15 newspapers in Mexico, are now installing 100 Dural aluminum chases. Toronto (Ont.) *Globe & Mail* will go to a 9 col. page about Aug. 1 with 80 Dural chases ready for the changeover. London (Ont.) *Free Press* will change to 9 col. page size about July 1 and will install 70 Dural aluminum chases.

•

Miehle Presswork Courses

Miehle Printing Press & Mfg. Co. recently announced opening of a school for pressmen offering courses in both offset and letterpress. Initial classes will be held at the Chicago factory but training programs in other cities are being planned.

Program will be under direction of Harry C. Lauchle, supervisor of Technical Training and with the company since 1929. Classes will be limited to six or eight students. Offset courses are to be held Monday, Wednesday and Friday from 5:30 to 8:30 p.m. Letterpress instruction will be Tuesday and Thursday, 5:30 to 8:30 p.m.

Additional information may be obtained from Miehle Printing Press & Mfg. Co., 2011 Hastings St., Chicago 8, Ill.

Offers Saw Safety Survey

Brett-Guard Co. has established what it calls a Casualty Research Dept. through which it will make a service available to the Graphic Arts designed to reduce circular saw accidents. The department will be operated under direction of Harry J. Jordan, industrial designer and safety consultant, and offers to make available its findings upon request. Jordan's staff, it was stated, can recommend the safety procedure demanded by each particular saw table upon receiving the following information: (1) Make of saw; (2) Table length and width; (3) Diameter of blade; (4) Distance from center of blade to the right edge of table; (5) Distance from center of blade to rear of table; (6) Type of work done on the circular saw. Requests should be sent to: Brett-Guard Co., 105 S. Dean St., Englewood, N. J.

OUR BLANKETS ARE KNOWN, SOLD AND USED ALL OVER THE WORLD
Blankets for Any Press—Any Speed!
● Monocork Deluxe, Regal and Mastercork blankets — for various combinations
● New England top blanket assures the finest in print results
● Graylock top blanket — a new, improved advancement to newspaper printing
Plus Plain Felt, Coated Felt, Red Rubber, Utility and Bay State Blankets.
Also equipment and supplies for Stereotype, Composing and Press Rooms.
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WEST COAST OFFICE: 822 DeYoung Building San Francisco, California ED SPARKS
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BOOKS

Printing Trades Blue Book

The 718 page 42nd annual edition of the *Printing Trades Blue Book for Greater New York and New Jersey* has been published by A. F. Lewis & Co., Inc. This is a directory of printers, lithographers, bookbinders, compositors, engravers, paper merchants and manufacturers, machinery manufacturers and dealers, supplies and services. Addresses of companies, principal officer, phone number and products are given. A special products directory (limited to advertisers in the book) is included. These consist of company products and services to be found in the area covered by the directory itself. Area covered consists of Manhattan, Bronx, Brooklyn, Long Island, Staten Island, Westchester County and New Jersey. There is also a directory of Associations, Unions and Clubs, as well as a Directory of Paper Watermarks and Brands.

Printing Trades Blue Book (Greater New York and New Jersey)—Published by A. F. Lewis & Co. of New York, Inc., Central Savings Bank Bldg., 147 Fourth Ave., New York 4, N.Y. Listed at $20 per copy. Size 5½ in. by 7⅞ in., 718 pages; hard bound in blue cloth, stamped in silver.

Graphic Arts Progress

Fraser Paper Limited is distributing the second annual *Graphic Arts Progress* 1957. The material comprising this collection of outstanding articles and abstracts was selected by a panel of prominent judges within the printing industry, from articles contributed by trade publications. The caliber of the articles, relating to new processes and new ideas in the field of Graphic Arts, make the collection one of considerable value to those who endeavor to keep up with rapid progress.

Distribution of *Graphic Arts Progress* 1957 is being made through Fraser Paper Limited's merchant representatives throughout the East and Middle West.

ROP Color

(Continued from Page 72)

plated from the floor level with the remaining two plated from the superstructure catwalk.

(6) All ink setting will be done at the pressroom floor level.

(7) A steady diet of angle barring is involved but for a given amount of color flexibility less angle barring will actually be involved in the long run. With this layout the color sheet is barred only once, whereas changing position of an underlying sheet involves two bars at a minimum.

(8) The length of the color lead should be approximately the same as that of the lead from the third unit from the folder.

(9) At first one would conclude that considerably more space would be necessary for this layout. However, with the exception of the complete overhead color arrangement (Milwaukee (Wis.) *Journal* described above) or superimposed color units, total space requirements will be slightly less than most other conventional arrangements.

The basic Wood Metropolitan four color unit can, of course, be used in many other types of arrangements as well as the right angle installation described above. In Figs. 32 and 33 are shown schematically some of the possible web arrangements available. As shown in Fig. 33 this basic four color unit can be operated as two black printing units if desired. All printing cylinders are driven by a single gear and are fully reversible.

Inking Arrangements and Portable Fountains

There are two basic inking arrangements used for printing color on newspaper presses. Permanent four page wide fountains which can be filled automatically by

The Burgess representative offers the best in quality and service

Best in quality because Burgess Mats are produced under strict laboratory control . . . always give the best possible reproduction. And best in service because Burgess representatives are experienced stereotypers, capable of helping you solve your problems. Quality and service. Quite a combination. And you get both when you use Burgess Mats.

BURGESS CELLULOSE COMPANY

Manufacturers and Distributors of
Burgess Chrome and Supreme Tone-Tex Mats, Freeport, Illinois

BURGESS Chrome MATS

Canadian Representative, R. M. Louson & Co., Ltd.,
Kennedy Road, Agincourt, Ontario

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pumps, or manually, serve particularly well when using color units that are set up to run the same process colors from run to run. The Hoe duo-ink rail affords considerable flexibility in this respect.

The use of various types of portable fountains has aided immeasurably in extending the flexibility of existing press equipment and also makes possible comparatively easy changeover from one color to another. There are several excellent portable fountains available in both single and double page widths.

Some presses are so designed to permit use of more than one portable fountain simultaneously on the same cylinder without blending of colors. Other designs permit using four different fountains and colors across the cylinder. The separation of adjacent colors depends largely on control of longitudinal motion of the inking rollers and drums, cutting of ink rollers, and possibly use of a small skiving blade such as a Dayco separator. Reducing the ink distribution oscillation to a minimum, however, does have some effect on ink distribution.

Plate Lockups

Theoretically speaking, so-called compression lockup is fundamentally unsound and, in fact, is contrary to several basic engineering principles. However, the limitations of compression lockup were of no serious consequence until the advent of the higher press speeds attained in recent years. When management plans to run the new press equipment at or near top speeds on a continuing basis, serious consideration should be given to the use of some form of tension lockup.

Tension lockup is particularly valuable when running color at high speed since invariably color plates are routed and are more susceptible to fatigue problems at high speeds. Since plate "breathing" is minimized with tension lockup, better control of color printing is possible and plate wear minimized. Register control should also be aided.

(In Sec. 3 of Part VII—Pressroom, will be discussed scheduling and pressroom planning, plating and registering, color setting and control, sequence and trapping, rollers and blankets; raw materials —newsprint and inks.)

Table glides effortlessly on 18 steel ball-bearings. The only mechanically correct way of carrying work to the blade, the ball-bearing, easy-gliding table is a standard COST-CUTTER feature.

NOW... ball-bearing tables on all Cost-Cutter Saws

Yes! The ball-bearing, easy-gliding table, most-wanted feature a saw can have, is now standard on all Cost-Cutter Saws. But that's just *one* of the reasons you get faster, smoother service with today's Cost-Cutter Saws.

Compare these other great features ● Micro-elevating saw head, graduated to points, for precision undercutting and mortising ● Greater capacity: 92-pica gauge bars . . . large tables take plates up to 21½" ● Five year guarantee—you get absolute assurance of quality construction and dependable performance.

Choose from 3 models, bench and pedestal type. Prices? They begin at an amazing $540.00 to give you the best saw-trimmer values on the market today!

Send today for FREE Data on Cost-Cutter Saws. Write the sales division, Pate Company, 3553 Peterson, Chicago 45, Illinois.

Model C as shown $815
Bench Saw only...$665

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Cost-Cutter Saws are manufactured and guaranteed by C. B. Nelson Division of Fastener Corp., Franklin Park, Ill.

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To meet increasing demand, facilities for the production of Cost-Cutter Saws have been sharply expanded. If your distributor was previously unable to supply you with the Cost-Cutter of your choice, we urge you to ask him again. Or write to the address above.

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Press Drive System

(Continued from Page 80)

carried away by circulating water through the tube jackets. The cooling water which is circulated through all six tubes of a rectifier in series, is automatically controlled by thermostat devices built into the tube jacket which serves to regulate the water flow by means of a solenoid valve to maintain proper tube temperature as a function of a tube loading.

The average flow per equipment for the larger press combinations is estimated at approx. 0.3 gal./min. during its edition period. Although tap water is used for tube cooling, the outlet flow is merged with the coolant used for stereotype casting and for air conditioning.

Motor Ventilation

The drive motors for each line of presses are enclosed and externally ventilated from separate duct systems running the entire length of the press. Air taken from outside the building is supplied to the ends of each duct by separate blowers. The system is designed so that in the event of failure of one blower on either duct, sufficient capacity is still available to maintain normal press production indefinitely.

The purpose of an external air supply for drive motor ventilation is not necessarily to improve the rating of the equipment, although it would be an aid in any emergency overload condition, but rather

to reduce press motor maintenance by eliminating the possible recirculation of pressroom air which contains ink mist and paper dust. The total ventilating system requires less than 20,000 c.f.m. at approx. 1 in. pressure.

Safety Features

Personnel safety in the *Bulletin's* pressroom is particularly important because of the size of the press crews and the hazardous nature of certain press functions, including makeready and webbing up operations. Certain electrical and mechanical safeguards on the equipment are considered important.

There is the conventional safe-ready visual signal system with red and green lights on the press that warn the pressmen by showing green lights when the press is on safe and by red lights when ready to run. The *Bulletin's* equipment further incorporates an audible warning system which functions to automatically sound a gong for a short period prior to an initial start. At the end of this period the press will respond to any push-button control function. This warning is of sufficient duration to allow all hands to stand clear or to enable a safe button to be set which overrides all previous conditions.

The press units are also provided with electrical interlocks as a further precaution to guard against press movement during replating operations. At production speeds the web break detectors and web severing devices become automatic watch dogs over press operation. A web failure at any point is instantly sensed by the detectors which function to cut the power to the motors causing the press to be quickly brought to rest. Concurrently with this operation the web severing device located on the feed side of the press unit severs the web to limit the amount of paper that might be drawn into a cylinder wrap.

The ability of the drive to respond to all control functions, regardless of the size of press combinations, such as smooth jogs for inching, uniform low speed for threading and linear speed acceleration, is important to safe operation under all conditions.

Literature

(Continued from Page 96)

released by Cambridge Instrument Co., Inc., is supplied with illustrations and descriptions. For a copy, please circle No. 327 on the Reader Service Card.

SUPPLIES CATALOG

Detailed information on its line of offset printing and duplicating supplies and auxiliary equipment has been published by Davidson Corporation in a 36 page illustrated catalog. Some supplies mentioned are paper masters, presensitized plates, inks, offset processing solutions, and Dual-Lith attachments. For a copy, please circle No. 328 on the Reader Service Card.

PNEUMATIC SPECIALTIES

A four page folder, F-15B, is descriptive of pneumatic specialties such as filters, regulators, lubricators, air relief valves and strainers and accessories, manufactured by Watts Regulator Co., Industrial Division. Illustrations and specifications are included. For a copy, please circle No. 329 on the Reader Service Card.

MORRISON CATALOG

Saw trimmers, slug strippers, plate bevelers, router and type high planers, and other products are incorporated in The Morrison Company's catalog. Included in the catalog are specifications and illustrations. For a copy, please circle No. 330 on the Reader Service Card.

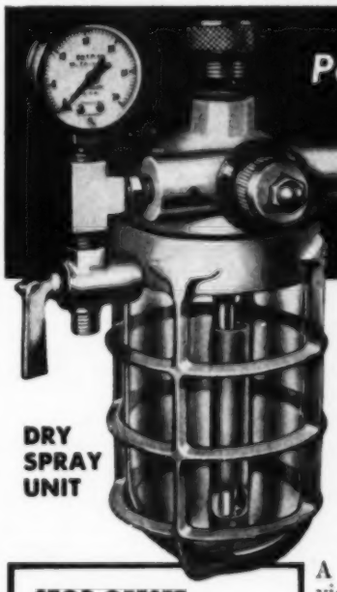
CASTER AND WHEELS

The Hamilton Caster & Mfg. Co. recently published a 56 page catalog, No. 125, presenting its line of industrial casters and wheels. Illustrations, descriptions and specification data are contained. The catalog is classified and cross indexed. For a copy, please circle No. 331 on the Reader Service Card.

NEWSPAPER EQUIPMENT

Over five hundred items are illustrated and described in the Eastern Catalog 20 published by Eastern Newspaper Supply, Inc. Items are for composing rooms, stereo departments, pressrooms and photoengraving departments of newspapers. For a copy, please circle No. 332 on the Reader Service Card.

Use the convenient yellow Reader Service Card found in this issue for requesting free literature found in *Printing Equipment Engineer's* Graphic Arts Literature section.



Positive Way To . . .

Stop OFFSET!

DRY SPRAY UNIT

WRITTEN GUARANTEE WITH EVERY INSTALLATION

- Get more, cleaner, impressions per hour
- Reduce reject sheet waste
- Completely automatic—accurate—dependable
- Easily adaptable to any type press
- Only one finger-tip setting for positive control
- Complete air operation . . . no moving parts

STOP OFFSET SPRAY MATERIALS

POWDERS—Compounded especially for anti-offset sprays. Pure vegetable compound—no minerals or grit. Free flowing and moisture resistant. Available in controlled particle sizes for any type work.

LIQUID—Available in light, medium, heavy, and extra heavy grades. Non-inflammable, non-toxic, non-abrasive. Won't freeze. Flows freely . . . non-settling.

A "Printer Design" Tailor-Made for the Individual Press. One simple adjustment—normally set in 3 seconds—provides a dependable, full-coverage, controlled dry spray that definitely prevents offset . . . turns out a better printing job faster. Regardless of the size of your shop; the make of press in service, or the type of printing in which you may specialize, OMC has a specific model of Stop Offset dry spray equipment to fit your needs.

Nearly 10,000 shops the world over are equipped with OMC stop offset spray equipment. This is proof positive of absolute dependability.

Available thru leading Graphic Arts suppliers.

Write for FREE folders and literature describing in detail OMC Stop Offset equipment.

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NEW . . . CLEAN . . . LOW PRESSURE

OMC LIQUID SPRAYER

True LOW PRESSURE • Easily adaptable • Adjustable Pattern • Definitely Cleaner

IMPROVED . . . to give Clean, dependable performance at true LOW PRESSURE . . . only a low 12 pounds air pressure required for full coverage spray pattern! All you do with an OMC Liquid Spray Unit is set it and forget it. Eight efficient models available for any size press, plus essential accessories for greater efficiency. Write for new, descriptive folder giving complete details.

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ALCOA ABRASIVE TREAD PLATE

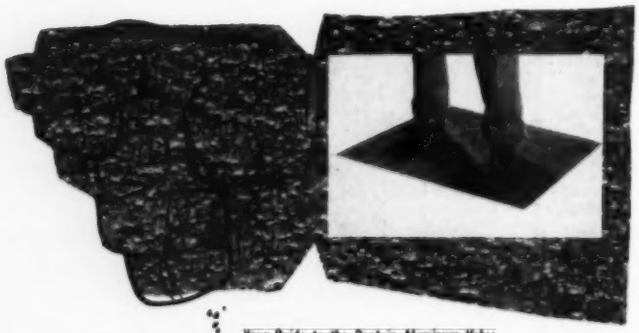
safest surface in your plant!

The tough particles that make a grindstone cut metal make it the safest of all surfaces for walking.

Alcoa, the nation's leading supplier of fused aluminum oxide for grinding wheels, is now making an aluminum tread plate from this identical material. By rolling these sharp abrasive particles into strong, light, rustproof aluminum, Alcoa offers a surface on which men can safely stand or work under almost any conditions. It stays slip-proof even when wet, oily or greasy. Since the abrasive is rolled in, its slip-proof qualities are more than surface deep!

If your plant contributes to the 20,000 deaths by falls that occur each year, or to the thousands of injuries, here's a way to stop them: install Alcoa® Abrasive Aluminum Tread Plate on catwalks, stairways, walkways, pedestrian lanes . . . wherever men work or walk . . . wherever surfaces get slippery.

Measured by the cost of even a single injury, the cost is trifling. For sample and complete data, use the coupon below. Aluminum Company of America, 1673-F Alcoa Bldg., Pittsburgh 19, Pa.



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ALCOA ALUMINUM ABRASIVE TREAD PLATE

THE ALCOA HOUR—Television's Finest Live Drama, Alternate Sunday Evenings

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Please send literature and four-inch sample of abrasive tread plate.

Name and Title .....
Company .....
Use Being Considered .....
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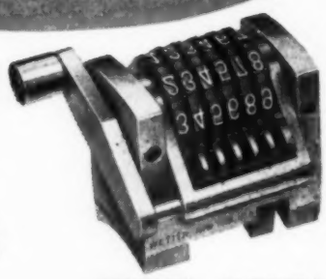
No.

Want Clean, Accurate NUMBERING?

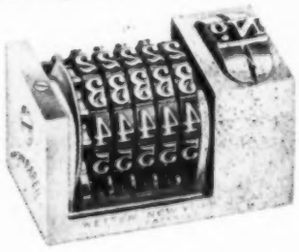


DO IT BETTER WITH

ROTARY MODELS
(Right angle or parallel)

WETTER

Fine workmanship, rugged construction insure crisp accuracy, clean impressions, perfect sequence *—every time!*



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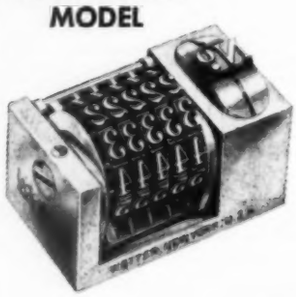

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ONLY UNION MADE NUMBERING MACHINE IN U.S.A.

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ANPA Studies Cost

(Continued from Page 59)

up with this double increase cost spiral.

"We have presented to our conferences and carried in our bulletins everything that has been developed during this period that will increase the efficiency of the individual plant. The main problem we face is getting ideas and information to the people who will do something about them.

"We believe many publishers will get a great inspiration to attack the cost problem by attending our conferences. While we might not give them a simple answer, we can and do start the thinking that leads to a better job in their own plant.

"The operation of the present day newspaper is no longer one of getting out a good editorial product and letting everything else take care of itself. Look what the Bureau of Advertising has been able to do in the advertising field! Very few publishers open the transom and expect advertising business to be thrown in without doing some scientific spadework in selling. They know that some honest, hard selling must be done if they are to continue to get business in increasing volume.

Need for New Look

"Far too many mechanical departments are operated by the same rules and planning used 30 years ago. Publishers must use the same amount of modern skill and planning in manufacturing their papers that they use in editorial content, advertising, circulation.

"Give what you are doing and how you do it the same honest study you give income problems. Go into some of the new ideas being presented from time to time. Study work simplification and all the frills you have in your operation. What you ask the shop to produce is the biggest cost factor in your operation.

Use the ANPA

"The Mechanical Committee and Department stand ready to help you . . . The Committee's main concern is the feeling that we are not getting through to the publishers. Read our bulletins, write our department, attend our conferences and get in touch with us as individuals—we want to help.

"This Committe also would like to extend its real thanks to the staff in the Mechanical Department office in New York. This Department is very active and a special tip of the hat goes to Manager Dick Lewis, who so ably carries on this working part of our activities."

Analyzes Color

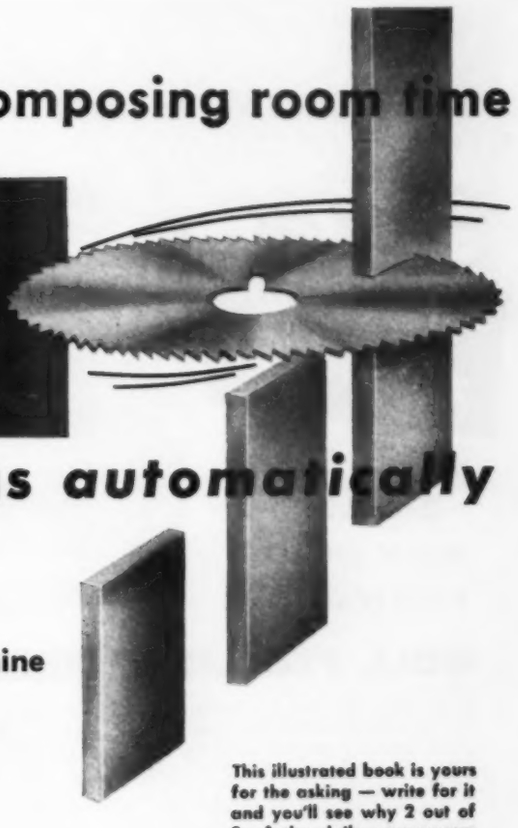
(Continued from Page 61)

first it seems a simple matter to add extra colors. This is not the most important item, however. Administration is the important thing. Better methods must be used in platemaking. It also seems necessary to secure longer runs in four color printing because volume of work reduces cost of production. It is also imperative to lose the least amount of production time possible. To illustrate, he said an error in any one color also involves other units on the other colors. The error will delay the other men concerned until the one defective color is corrected. He advised that the color on the press should be well established before the customer sees the press sheet, if the sheet is to be shown to him. Goldsmith also discussed screen or dot angles, ink condition and dampening for trapping. He stated that the sheet changes dimension progressively when going through the press because of dampening. This brings up the problem of register.

Goldsmith stated that the press manufacturer needs to develop a

SAVE composing room time

The Mohr Saw



saws slugs automatically

- to *any* measure
- right at the machine
- without spoilage

This illustrated book is yours for the asking — write for it and you'll see why 2 out of 3 of the daily newspapers in the U.S. use the time-saving Mohr Saw.

A Mohr saw, attached directly to your linecasting machine, will cut away the parasites that prey upon profits—walking time, waiting time, sawing time and jam-ups. All sawing is done right *at the machine*,—and you'll get a *better* job without spoilage.

Mohr LINO-SAW Company

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means for readily moving plates on the cylinders.

Future of Letterpress Four Color Printing

Robert B. Davis discussed four color printing from the letterpress standpoint. One of his opening remarks was to the effect that "When you go into four color printing you will need a little money and a larger press." He discussed analyzing all matters pertaining to four color work before getting into it, including the present volume of four color printing already in the plant and the amount of new business that likely can be obtained. He stated that in the matter of four color letterpress printing, there should be some such organization as "Letterpress Printer and Supplier, Inc." Both organizations should work together in a cooperative manner. He predicted there is a great future in rotary letterpress four color printing.

Standardized Lighting for Color Appraisal

There were two speakers on the subject of *Standardized Lighting for Color Appraisal.* These were Warren B. Reese and Philip E. Tobias.

Reese stated there is no last word in lighting for color appraisal. Through a series of humorous cartons projected on a screen by slides, Reese gave a typical example of the reactions of all people concerned in production of a color job.

Reese stated we need artificial light balanced to daylight which will be constant. A light source acceptable to the majority concerned in color work should be employed.

Philip E. Tobias spoke upon the subject of standardization of lighting as applied to color printing. A compromise must be accepted with respect to the light source. He discussed the type of lamp best suited to critical color work. Also another for general work. Many errors in color can be avoided if the copy is viewed in the final reader's environment under commonly used general lighting conditions.

Ink for Color Printing

Most of the comments made by David M. Kirkpatrick were related to letterpress color printing. He confined his remarks to comments about high speed rotary color presses. He discussed heat-set inks which consist of pigment, resin and solvent. He defined colors and what pigments, etc., are used to get required shades for major colors used. He also discussed ink trapping.

Paper for Color Printing

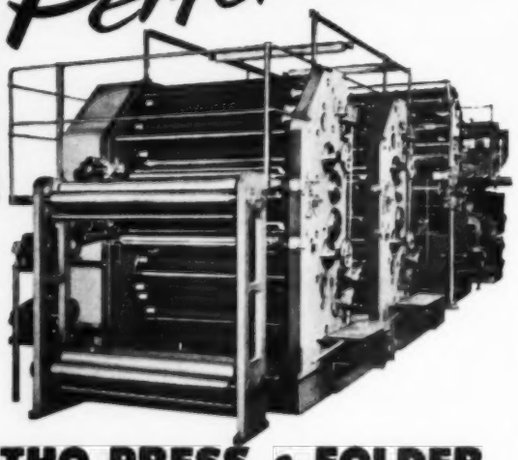
William R. Maull spoke upon the subject of paper as related to multicolor printing. With respect to multicolor printing, he stated: "We hear more now about double coating of printing papers, although that has been the practice since the turn of the century and a personal experience since the early 1920's." The application of two layers of coating permits a top coating of maximum ink acceptance, which, because of its nature will be readily adsorptive to the ink. The undercoat, or the first applied to the base paper, can possess an ink resist, preventing excessive penetration of the ink, possibly in two distinctly different ways. First, by its very nature, possessing few or very small capillaries, or second by blocking further passage of ink through the capillaries of the top coating by the fact the capillaries of the bottom or first coating are not in line or connected in any manner. The speaker stated smoothness of the surface of the sheet should be free from pits, holes, or surface indentations.

In his closing remarks, Maull stressed that on large and important orders, the customer should give as much information as possible to the paper supplier.

FOR **EVERYTHING** THAT MAKES AN OFFSET PRESS A

Star Performer--

THE *Hantscho*



35" x 50"
2-COLOR
HIGH SPEED
PERFECTING

ROLL FED LITHO PRESS & FOLDER

Especially designed for mass production at low operating cost, this popular press has been proved ideal for magazines, manuals, work books, children's books, encyclopedias, etc.

And it's loaded with new and exclusive developments in design and construction. For example: a new adjustable plate clamp to allow close registration on color work.

Some of the other special features of this press are

★ Smooth operation at speeds up to 16,000 cylinder r.p.h. assured by printing unit engineered on a three-frame principle, mounted on a heavy base.

★ Solid forged steel printing cylinders mounted on pre-loaded self-aligning roller bearings.

★ Accurate settings and positive locking on all roller adjustments.

★ Composition-covered ink vibrators to prevent stripping.

★ Vibrator motion adjustable to facilitate split fountain work.

★ Provisions for: electrically controlled side and running register. Dryer and water cooled rollers for the running of machine coated stock. Cross and running perforation.

Built on the unit principle, this press can be supplied with one perfecting unit and folder. Other units can be added for as many as four or more colors, two sides. Rewinder, sheeter and special folder are also available. Standard infeed rolls stacks or automatic pasters can be easily attached.

When you want dependable printing performance that cuts production time and operating costs you want a HANTSCHO press.

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Materials Handling

(Continued from Page 94)

automated machinery which is being used by industry in general.

Automated Press

Peter de Florez talked on automation. A definition of automation would be the means for increasing production while lowering product costs. Industry must continue to improve production to keep pace with labor costs. Automation also means the taking of a number of machines, connecting them together and op-

erating by unskilled labor. De Florez discussed automation in the newspaper field where production is practically automatic from rolls of paper on the presses to the folded and printed papers. Magazine and book publishers have held the line on prices in spite of rising costs partially due to reduction to the minimum of manual handling.

The speaker illustrated with slides a book press upon which a 72 page book can be printed in one operation. The rubber plates are mounted on a continuously moving belt with the inked plates contacting the continuously moving web. It is intended to combine printing, folding and binding in one operation on the press.

De Florez commented on the strong trend in the Graphic Arts industry toward specialization. Included in the specialization group are coupon, sales, calendar pads and trading stamp printers. Some of these firms have recently installed what might be called presses, but in reality are paper converting machines.

In concluding remarks, de Florez warned that in considering automatic and/or automation equipment, an executive should not "bite off more than he can chew" simply for the reason that introducing automated equipment brings on substantial costs. Be sure the volume of business warrants installing.

Materials Handling in Paper Converter Plant

A. Mather Reed, converting room superintendent, Finch & Pruyn Paper Co., exhibited a sound-color movie showing how paper is handled during cutting operations as well as in packaging and shipping. Devices for moving flat paper in heavy lifts by one or two men on conveyors and with the help of compressed air cushion was most interesting.

Yulke Discusses Materials Handling

Samuel G. Yulke, president, S. G. Yulke Co., New York, N. Y., discussed materials handling in general industry. His is a consulting materials handling firm. Yulke stated that materials handling principles are not new. No matter what we do, it's materials handling in one form or another. Speaking from the standpoint of general industry, Yulke discussed specific cases for materials handling. During the course of his address he related that Armour and Company, Chicago, installed materials handling equipment provided it will pay off in one year's time.

A new concept of materials handling is to eliminate docks and to have roadways through the plant. For this purpose he advised consulting your architect.

Small, medium and large plants cannot afford not to have a materials handling program.

Yulke asserted that straight line production is out of date. Long, narrow plants are expensive to erect and to operate, especially with respect to materials handling in and out of the plant. The modern plant is contained within a square building where material comes out almost the same entrance it goes into the plant. Expressed in simple terms, cost reduction is the objective of modern materials handling. The cheapest equipment is employment of gravity, such as afforded by chutes, bends, slides, etc. This type of movement is three times as fast as picking up materials. Power belts are also effective.

In his concluding remarks, Yulke stated that the rake type of bins in a room have been outdated. The modern arrangement within the same space would provide for L-shape bins.

NALC Meeting

(Continued from Page 74)

turned from this test are reported. Basic cause of the variations seems to be the amount the halftone dots increase in size by passing through second, third and fourth impression units on the four-color press while the ink is still wet. The cameraman is faced with the problem of compensating for this increase in dot size when he makes the color separations. The study is continuing.

Quality Measuring Instruments

Mike Bruno commented on the future of lithography. He looks for development of additional instruments to measure quality. He commented that lithography is doing better than letterpress in quality improvement "primarily because through research, we have controls over the factors which we know will effect the quality of lithographic printing."

CUT PROCESS EXPOSURE TIME
IN HALF
with GRAFARC HIGH INTENSITY ARC LAMPS
GRAFARC 95 AMPERE PRINTING LAMP
For use with vertical printing frames under 40" x 50".
GRAFARC 140 AMPERE PRINTING LAMP
For use with vertical printing frames 40" x 50" and larger.
Sharper reproduction. Dot undercutting eliminated. Uniform coverage of large areas. Illumination variables absolutely eliminated.
Accurate density control regardless of line voltage variations. Constant color temperatures. Power-packed for dense Kodachromes.
Motor-driven . . . fully automatic . . . reliable. Overhead printing lamps available for use with horizontal printing frames. Burn in normal position, avoiding smoking of reflector and preventing ash from depositing on surfaces in the light path.
Models for Monotype Huebner MH photo composing machines assure precise control of intensity for accurate repeats.
Priced Unbelievably Low!
A NEW AND BETTER CAMERA ARC LAMP
The Grafarc Challenger
Dual function motor advances carbons, strikes the arc, establishes correct gap length, and feeds carbons so as to maintain proper gap.
ACCURATE EXPOSURES OF AS SHORT AS FIVE SECONDS
2 Models: 75 and 110 amperes high intensity.
See your Graphic Arts Supply Dealer or send coupon for literature
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Please send free literature on Strong Grafarc Lamps.
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NAME OF SUPPLIER
a subsidiary of
CPC
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Glass Daylighting Block Helps Control Color

A Chicago printing firm has employed glass daylighting block containing a fibrous blue-green screen as an aid to color control in its color process printing department. All window areas on the east, north and west exposures of the new 17,000 sq. ft. plant of Unique Printing and Lithographing Co. are composed of 8 in. Suntrol blocks.

The diffused lighting admitted through the glass blocks, according to Joseph Semrad, owner of the firm, tends to eliminate possibility of glare overcoming fluorescent lighting on the presses. This is important, he said, in printing the first color (yellow) in four-color process work and on extended runs where close color matching is necessary. Glare or excessive brightness, particularly on coated stock, says Semrad, poses a difficult color matching problem. Glare also causes eye fatigue which can result in mis-matching of colors during the press run.

Unique's plant has been insulated as an aid to temperature and humidity control. A 2 in. layer of Foamglas, a cellular glass block insulation installed in the roof, helps to ease the load on the firm's air conditioning system.

Now that Magnesium has proved its superiority—

Popularity focuses on Magplate for accuracy, uniformity, easy sawing and routing, hard surface, and clean bottom.

You may be one of the many progressive photoengravers who have swung over to magnesium metal for line etching, half tones and combinations.

No—not yet? Then start now with Magplate. Experience its time-and-cost-saving advantages over your present materials.

Yes—you're a magnesium user?

. . . Then be sure you test-and-prove magnesium at its best—with the high-purity Magplate Products.

Write today for descriptive Magplate folder.

MAGPLATE DIVISION
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THE ONLY PRODUCER WITH AN INDEPENDENT SOURCE OF SUPPLY AND COMPLETE ALLOYING AND ROLLING FACILITIES.

M-2

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INTERNATIONAL ASSOCIATION OF PRINTING HOUSE CRAFTSMEN, Inc.
HOTEL STATLER
Make it Vacation Time too!

AUGUST 4-7, 1957

Sta-Hi's Router

(Continued from Page 84)

eliminating glare and providing clear view of the work. Two separate chip drawers are provided, to facilitate removal of waste.

In operating the machine, the operator stands or sits at the right front of the Twin-Plate Router, and uses the right hand plate as his working guide. The plate on the left hand cylinder is automatically routed in the same pattern.

Precision register checking pointers, which retract out of the way into protective cylinders when not in use, enable the operator to make a final comparison of the two plates to determine that they are identical before starting the actual routing.

The Twin-Plate Router is equipped with an air jet chip remover, is lubricated with an Oil Mist lubrication system, and a running time meter which records the actual hours the machine is in operation, making possible accurate preventive maintenance.

So that router bits used in the twin heads may be re-ground exactly alike to the close tolerances required in such a precision routing operation, Sta-Hi has developed and is manufacturing a special router bit grinding machine which will be available as auxiliary equipment. This grinder can be mounted on a 30 in. by 36 in. stand or on a bench, and operates on 110 v., s.ph. 60 cy. a.c. current.

The Twin-Plate Router is 27½ in. wide, 78 in. high and 76 in. long. Standard equipment is furnished for operation on 208-230 v., 3 ph., 60 cy. a.c. current. Compressed air service is required for pneumatic operation of the spindle quills and for the router bit grinder. Approx. net weight of the Twin-Plate Router is 2000 lbs.

For further information, please circle No. 263 on Reader Service Card.

Service plays an important part

in the Wood Dry Mats you use

Whether it's rarely or frequently that you may need his services, there's a Wood Flong representative near you who will respond promptly whenever any question arises regarding your use of dry mats.

You'll find him well qualified for his task which is that of helping you to gain the most from the fine qualities that are built into all Wood Dry Mats. Think of him whenever the need arises.

Your Wood Flong representative is not alone as he strives to help and advise you. He has behind him all the resources of an organization that has spent many years helping the user to achieve the best that is possible in the way of faithful reproduction.

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Oldest In The Country

WOOD DRY MATS
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ALUMINUM STEREOTYPE CHASES SINCE 1947

HOME OF THE WORLD FAMOUS DURAL CHASE

NOW in FIRST PLACE!

The most popular, the most accurate, the lightest, the cleanest and the FINEST Stereotype Chase on the market today is the

DURAL CHASE

See them in Booth No. 72 at the ANPA Mechanical Conference in Chicago.

Manufactured Exclusively by the JACK MOORE, *Sales Manager*

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nuArc N-110 AUTOMATIC ARC LAMP

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BEST FOR ROP COLOR REPRODUCTION!

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GUARANTEED FOR COLOR TEMPERATURE AND INTENSITY!

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PERFECT PLATES AND QUALITY IMPRESSIONS!

ROP color is no longer a novelty . . . it's a commonplace. And—advertisers who use ROP color are no longer satisfied with second-best reproduction. They want the BEST. You can give them the best with the help of a completely automatic, motor-driven nuArc lamp.

Completely controlled light is the most important factor in making plates that produce top quality impressions. Light control is so complete with a nuArc that variations in color and intensity never vary more than plus or minus five percent. This means reduced power costs, shorter exposure time, sharp and clear dot structure, and no undercutting. No moving parts to wear out, no tubes to burn out, no points to set. Only the N-110 offers so many possibilities for economy, improved quality, and increased production. Contact your dealer, or write for bulletin 205A.

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General Office and Factory:
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SAWS • ROUTERS • MORTISERS

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NEW MODEL

Code: M2-B

ENCLOSED CURVED PLATE ROUTER

with new close coupled single belt drive
Ball bearing construction throughout

'ELECTROMATIC' SAW TRIMMER

For Stereotypers, Electrotypers, Photoengravers

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'MULTIFORM' RADIAL ROUTER

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Patented Straightline Control Feature

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ANPA Mechanical Dept. Activities

Richard E. Lewis, manager of the ANPA Mechanical Department, submitted his annual report to the convention of the American Newspaper Publishers Assoc. The convention was held at the Waldorf Astoria Hotel, New York, N.Y., in April. In the report a number of the Department's activities are outlined. Important and informative bulletins have been issued. Also mentioned are two major activities—those related to photocomposition seminars and to a new service on spot color ink formulas.

The main context of Lewis' report is as follows:

"In order to tackle the job of combatting rising costs, publishers and business managers, in addition to production executives, must acquaint themselves with the solutions other newspapers have found to similar problems. Also, management must avail itself of all information available on new equipment, new processes, and new methods.

Department Can Help

"During 1956, the Department answered over 700 individual requests for information from member newspapers on all phases of production. In the majority of cases, it is simple to answer such requests from information or from personal knowledge. In some cases where problems are extremely complex, it is necessary to institute a special project to arrive at an intelligent solution. In all cases, every effort is made to supply complete and accurate information.

Some Special Services

"During 1956, inquiries from members led to compilation and publication of four special ANPA Reports. Two reports were issued on *Newspapers Settings Less Than 11½ Pica Columns, and/or Printing on 60-inch Newsprint Rolls or Less. The Nine-Column Format —How and Where It Is Used* was prepared as a result of interest by many newspapers. A new and up-to-date report is now being printed.

"On June 1, 1956, 12 newspapers were using photocomposition. Since this is a new production tool that warrants investigation by publishers, a Special ANPA Report entitled *Photocomposition—How and Where It Is Used* was published. In the nine months that have elapsed since this report was published, the number of machines in use has grown to 35. The Mechanical Department is preparing a second report on photocomposition, which will cover all these installations, giving minute details in each case.

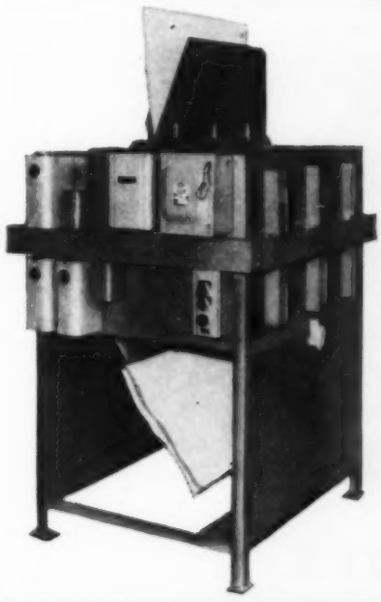
Photocomposition Seminars

"With the growing interest in application of photocomposition to newspaper composition, it became apparent that a complete interchange of information, not only the large, over-all problems but also the most minute operating detail was essential to eliminate duplication of effort by newspapers installing this system. The Mechanical Department helped in organizing and conducting two Photocomposition Seminars in the past year. Seminars are now scheduled every six months for newspapers which have installed photocomposition.

Mechanical Conference

"The Mechanical Conference affords publishers the opportunity to meet and discuss production problems with mechanical executives of the ANPA membership. Manufacturers and suppliers have on exhibit the latest in equipment and supplies.

"During 1956, the Mechanical Department published more Bulle-



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Users report: Type sharper • Halftones clearer • Greater depth of mold • Plates wear longer • Uniform drying • Less drying time. Now available with the Automatic Device shown here. This Device feeds the mats into the drier and ejects them automatically at the end of the drying period.

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A complete inspection instrument for:

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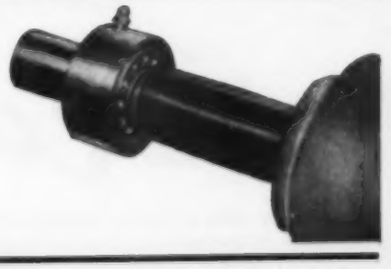
ADAPTERS

Provide Ball Bearings for form rollers now equipped with old style bronze or white metal bearings.

ELIMINATE: Streaking • Overheating • Bouncing • Daily Lubrication • Excessive oil on rubber and blankets • Bushing replacements.



ALICO, INC. Montague, Mass.

For More Information Circle 5 on Reader Service Card

tins than in any other year. These 38 bulletins included the 16th *Page Size and Roll Width Report,* with two supplemtnts to keep publishers and mechanical executives up-to-date on changing format status. The 9th *News, Classified, and TTS Type Survey* was another bulletin. For the first time a bulletin was published about newspapers now printing ROP color advertising. It contains 3192 separate pieces of information about member newspapers and their ROP color practices.

Mechanical Specification Records

"During 1956, the Mechanical Department instituted a new punch-card system of recording mechanical specifications of all ANPA member newspapers. The mechanical specifications for various production departments are included in such a way that over 80 separate pieces of information can be key-sorted in any combination. The mechanical specifications records were used to compile statistical reports through 1956, and in addition have been used extensively to prepare answers to individual inquiries or compile statistics for bulletins or special reports.

"An automatic checking system is in operation, whereby each newspaper will be checked every six months to insure that the information on the punch-cards is complete, accurate and up-to-date. By this method, it is possible for the Mechanical Department to prepare many types of statistical listings without inconveniencing members with individual questionnaires.

"During 1956, the eight report of the Joint Committee entitled *The Preparation of Copy, Art, and Photography for Run-of-Paper Color Advertising* was published. The Joint Committee is preparing the ninth in a series of reports which will be entitled *The preparation of Engraving and Duplicating Materials for Run-of-Paper Color Printing.*

"The Mechanical Department also has a new service on spot color ink formulas. By this service, newspapers can supply either a proof, color swatch, or manufacturer's number to the Mechanical Department, and we in turn will convert that material into a formlua based on the ANPA-AAAA standard ink mixing and blending system. Proof is supplied of the actual ink used to make the match with indicated proportions that are combined to make the desired color. Newspapers which have used this service have indicated that it is accurate and helpful in producing more uniform, high quality run-of-paper color printing."

A Fresh Approach

(From remarks made by Vernon R. Spitaleri, research director, Knight Newspapers, Inc., Miami, Fla., at Carnegie Tech's Spring Printing Management Seminar.)

In hiring an industrial engineer, lack of Graphic Arts experience is not necessarily a deterrent. There is value in a fresh approach by a man who doesn't know all the ways you can't do a job.

HOMETOWN NEWS FROM EDES OF PLYMOUTH

The MAYFLOWER
comes back to Plymouth

This month, 337 years after the first crossing, Mayflower II, a replica of the original staunch Pilgrim ship, sailed into Plymouth harbor.

We at Edes, located just a hop, skip and jump from Plymouth Rock, were on hand to help give it a royal welcome.

We feel pardonable pride in this historic event because we're now in our second century in Plymouth.

And also because Edes photoengraving metals are relied upon the world over as representing the pioneering enterprise and honest craftsmanship characteristic of our founding fathers.

THE WORLD'S FINEST Edes PHOTOENGRAVING METALS

THE EDES MANUFACTURING COMPANY • Plymouth, Massachusetts

VELVITE ZINC | TRIPLEMETAL | MARATHON ALLOY ZINC | MAGNEMETAL

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TAGA Meeting

(Continued from Page 67)

making of separation negatives, since image exposure and development time can be standardized for any given masking procedure. Clapper outlined the determination of flash exposure and stated it can easily be made from simple density measurements on the copy being reproduced. Benefits of the controlled flash technique, according to the speaker, are good tone reproduction and improved color rendition in the highlights.

One of the problems encountered in color reproduction processes is that of rendition of proper saturation. A paper on this subject was given by Sven Ahrenkilde, Rochester Institute of Technology, Rochester, N. Y., who illustrated the effect obtained by altering the gamma of the separations. He listed lack of saturation and hue change as two serious defects in a

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JUNE '57

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When you insist on

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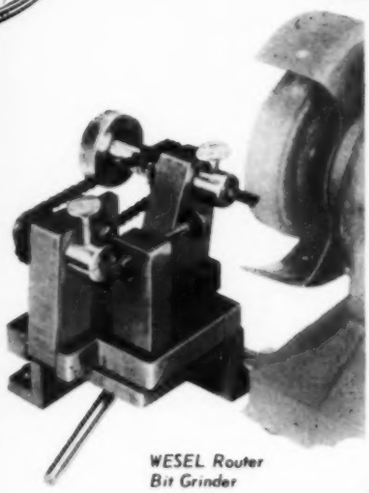

WESEL Router Bit Grinder

The new WESEL Router Bit Grinder Attachment turns out perfectly sharpened router bits every time. Even an inexperienced man can grind bits to factory-ground precision. Uses master bit for guide. Attaches to your present bench grinder. New features never seen before take all chance and guesswork out of bit grinding. Simple to use. No variation in the results.

Fast, quiet operation, rigid construction, improved platen inking, mechanical guards, automatic stopping are some reasons why the Wesel Proof Press is preferred in so many plants.

See these products at Booth 57, ANPA Mechanical Conference.

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HEAVY DUTY SHAVER

THIS HIGH SPEED production shaver handles electros, stereos, metal base, plastic and wood. Accurate to .001". Full page (18" x 24") capacity with shaving range from .140" to 1". Extra heavy, reinforced construction, hand finished and fitted one piece cast iron base. Micrometer control. Variable speed hydraulic feed. Fast table return. Built-in vacuum disposal. New positive hold down. If you have any shaving problems, write for full details and price.

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Please send complete information on your new Heavy Duty Hydraulic Rotary Shaver.

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color reproduction which are often encountered. Ahrenkilde said the most disappointing results occur when trying to produce high density range originals to within the range which can be printed on paper. He also stated photographic masking has as its principal advantage the improvement of saturation of the reproduction as well as some hue and brightness correction.

Perhaps the most entertaining aspect of the TAGA meeting was the presentation staged at the association's annual banquet by Dr. Isay Balinkin, University of Cincinnati. He titled his program *Color in Your Life* and proceeded to delight the audience with demonstrations of the effects of color using chemicals, light sources, and colored paper and cloth.

"Colors are like old-fashion children," he said. "They should be seen and not heard." Dr. Balinkin mixed chemicals in water to produce fluoresecent light. He twirled colored discs by means of an electric motor to prove that the presence of all colors will produce gray. He showed how certain light bulbs will make a cloth of one color appear to be a different color. He told the TAGA members that to produce satisfactory color they must know the amounts of each color in a light source to know how it will react on different surfaces.

Photographs Ink Misting

The perennial problem of ink misting from high press speeds is being explored by Interchemical Corporation using high speed movie cameras to photograph this condition as it actually happens. A report on this work was given by J. W. Howard of Interchemical's research staff.

Because it is impossible to study ink misting with the naked eye, Howard explained that high speed cameras were used to photograph the condition in slow motion. He showed a movie of the results which was selected from 20,000 ft. of film that had been taken. Using different ink formulations, he showed the effects of misting at different press speeds. It was determined that increased speed causes considerably more mist. Formulations of heavy and soft inks also produced much mist but varied in the size of particles. Less misting was produced by a short ink formulation.

Although Howard said it was too early to form definite conclusions of the ink misting problem without further study, the greatly enlarged pictures (37 times) provide a basis from which to work. He commented that they expect to eventually plot the path of mist particles emitted from a press. He was asked about the speeds at which the tests were made and responded that they ranged from 312 to 940 f.p.m.

Measuring Ink Mileage

Another ink subject was handled by Lars H. Sjodahl, Gardner Board & Carton Co., Middletown, O., who spoke on *Measurement of Ink Mileage*. He described a laboratory technique developed by which the amount of ink required to produce a depth of color on a given paper or board stock can be determined. It requires very little board and ink, he stated, and considerably less time than production runs. Accuracy appears to be well within 10% of results obtained, he said, by analysis of production usage, which are themselves variable.

The most important source of information on ink mileage, according to Sjodahl, is the record of actual jobs run on production equipment. The total square inches of area can be determined from the press count and a measurement of the inked area of an individual sheet with a planimeter. The total weight of ink used can be obtained from records of the ink room. It has been said, commented the speaker, that if this is done on two repeat runs, the only thing sure is that two different answers will be obtained.

Sjodahl continued: "Discrepancies can be due to variation in wastage due to press washups and emptying of buckets, variations in ink strength and penetration rates from batch to batch, variations in paper or board surface characteristics from lot to lot, and variations in actual color produced from run to run. . . . ink mileage on production runs is the information of greatest importance, and any laboratory calculation must relate closely to plant experience."

To the Graphic Arts, the most important aspect of printability is the quality of the prints produced. But since prints require ink transfer, investigation of the transfer process is

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ALL 3 in 1

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Fast, trouble-free performance of three of your "problem" operations can now be assured through the *Bromberg Newspaper Folder-Wrapper-Addresser.* Designed by a veteran mechanical superintendent who has personally wrestled with the same problems for years, this brand-new machine is fully tri-functional to fit your exact needs.

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ICMA Meet, Pittsburgh

The Bromberg machine is *compact*—28 inches wide by 11 feet long, yet it can handle any size newspaper up to 48-page standard. It is *practical*—it eliminates web slowdowns, and its own adjustable-speed conveyor permits easy sorting and sacking. It is *economical*—it sharply reduces labor needs. It is *fast*—a single unit handles 9,000 copies an hour. It operates on 110 or 220 volts AC.

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PUBLISHER SAVES 56% ON CASTING COSTS WITH NEW KEMP OVAL STEREO POT

Fuel Savings alone amount to $185.83 per month with Kemp Unit.

By installing Kemp equipment, this Canadian publisher reduced his cost per plate from 3.34c each to 1.46c...a *56% saving*. Fuel savings amounted to *$185.83 per month* during the first twelve months. Also by casting at a *faster* rate with *less* spoilage, overtime costs have been slashed substantially—$4,000 were saved in the first year.

IMPROVED WORKING CONDITIONS

Casting room temperatures have *declined* from an average of 100-105 degrees to 80 degrees or lower. And instead of drossing 3 times a week as formerly, drossing is now done *once* a week with a *66% reduction* in dross losses. Another case where Kemp Engineering delivers the goods in terms of dollars saved for its customers. Why not find out how Kemp can save you money, too?

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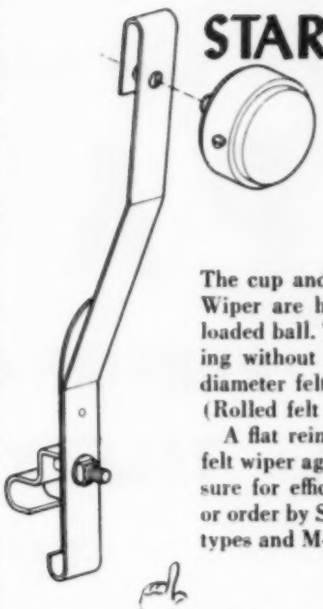
the Improved STAR Back Mold Wiper



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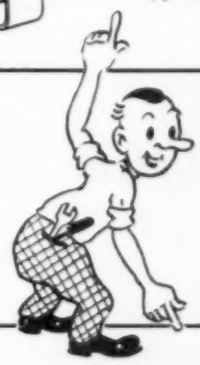
The cup and felt of the Star Back Mold Wiper are held in position by a spring-loaded ball. The unit snaps out for servicing without dismantling. The solid 2½" diameter felt is reversible for longer life. (Rolled felt available when specified.)

A flat reinforced steel spring holds the felt wiper against the mold with firm pressure for efficient wiping. Send for folder or order by Star Part No. M-49-L for Linotypes and M-49-I for Intertypes.



A COUPLE OF TIPS FROM Louie Linecaster

End Metal Build-Up with SLIC

When applied to molds, liners, vise jaws and spacebands, Star Slic forms a protective "liquid glass" film to prevent metal adhesion. Slic is non-corrosive and is harmless to metal parts and skin. It will not evaporate or break down under heat.

A once-a-week application to front and back mold wipers keeps molds and liners clean. Apply Slic sparingly to vise jaws to prevent metal build-up. Order by Star Part No. Z-83, and specify whether 6 oz. dispenser, 8 or 16 oz. can is desired.

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PERFORATOR TAPE

For Their **TELETYPESETTER** Equipment

TRY IT!

Link Paper Company

220 BROADWAY • NEW YORK 38, NEW YORK

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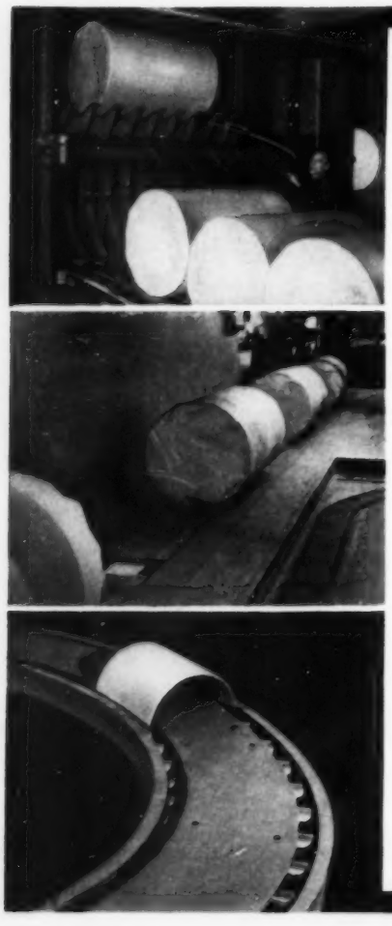

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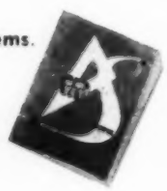
For years G-W has solved big specialized handling jobs for newspaper plants. Electric and pneumatic drops and lifts for newsprint rolls (top photo)...horizontal conveyors...and automatic interfloor handling systems for stereoplates (bottom) have all been built and installed in the plants of daily newspapers and leading printers. And all are operating successfully today, with speed, efficiency, savings, and complete protection for paper rolls and stereos.

Ask a good engineer about Gifford-Wood conveying systems for newsprint, stereos, magazines, mail sacks, bundles, or broke. Then write for full details on actual G-W installations.

Free! Idea Book on engineered materials handling systems. Ask your nearest G-W office.



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For More Information Circle 151 on Reader Service Card

fundamental to printability research. These statements prefaced a talk delivered by W. D. Schaeffer, National Printing Ink Research Institute, Lehigh University, Bethlehem, Pa., on *Influence of Ink Properties on Transfer During Printing.*

Schaeffer said an important aspect of ink transfer is the relation of ink properties to their splitting characteristics from plate to stock. Previously, ink transferred during printing was divided into that immobilized by the paper during the dwell time and that which splits from the remainder. The latter portion might be called the "free" ink split. The relation of the free ink transferred during printing to the rheological properties of the ink has been explored by NPIRI. The speaker described a mechanism of film splitting which he said qualitatively explains the influence of ink shortness.

Speaking at one of the TAGA sessions, left to right, were: Lars Sjodahl, Gardner Board & Carton Co., Middletown, O.; J. W. Howard, Interchemical Corp.; W. C. Walker, West Virginia Pulp & Paper Co.; W. Schaeffer, National Printing Ink Research Institute, Lehigh University, Bethlehem, Pa.; A. P. Reynolds, S. D. Warren Co.

Controlling Moisture in Paper

Paper also received its share of attention at the TAGA meeting. Moisture content of paper was the topic and it was handled by A. P. Reynolds, S. D. Warren Co., who said: "Moisture is the cheapest raw material the papermaker has but is often one of the hardest to control. It has a profound influence on many of the characteristics of a sheet of paper and more often than not may determine whether it can be printed satisfactorily."

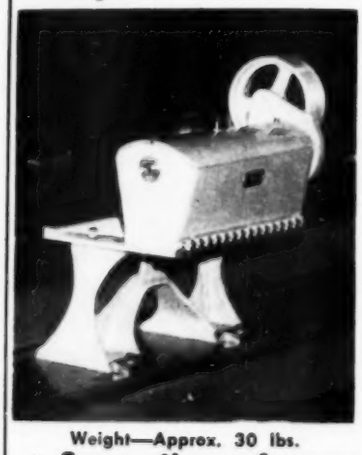
Schaeffer told how proper moisture content varies with the class of paper and the conditions under which it is to be printed. He suggested the Cambridge Sword Hygrometer as the most practical instrument for moisture determinations. Close calibration and proper use is required of the sword, he added. Continuous measurement by electrical characteristics and automatic control of drying conditions from these measurements are necessary for control of moisture during manufacture. Humidification of cutting and inspection rooms at the mill are needed, he commented, to prevent loss of moisture during handling.

A paper entitled *A Technical Analysis of Paper Properties,* prepared by Curtis W. Ingalls and J. Marvin Forsberg, The Todd Company, Inc., Rochester, N. Y., was also delivered.

In order to insure consistency in comparisons and criticisms among color originals, engravers' proofs and press sheets, Springdale Laboratories of Time Inc. developed a system of standardized illumination for use by printers, engravers, photographers and art editors. A description of the system was offered by Joseph Crossley of the Springdale division.

The units which have been adopted include overhead illuminators with a combination of fluorescent and incandescent sources, giving an illumination level of 190 ft. candles at the working surface at a color temperature of about 3600 deg. K.; and transparency viewers with the same type sources giving a brightness of 500 ft. lamberts. Crossley reported

"Capco" Portable Ink Fountain



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Planners of the Philadelphia TAGA meeting were, left to right, seated: Russell Johnson, E. I. du Pont de Nemours & Co.; Philip E. Tobias, Edward Stern & Co.; Jos. W. Mazzaferri, Colorcraft Lithoplate Co.; Bernard R. Halpern, Graphic Arts consultant. Standing: Walter Kaiser and Eugene Vanaver, both of Edward Stern & Co.; John Sullivan, Williams & Marcus; Albert Sterner, Allen, Lane & Scott.

good results for even the most critical color viewing.

Illuminators used in viewing color reproductions must satisfy two requirements with respect to the color quality of the light. First, he said, the chromaticity of the source must be such as to appear white. Second, the spectral energy distribution must be largely smooth and continuous, and the distribution must not be deficient in the red, green and blue regions of the spectrum.

Uses of Electronics

A review of all known companies working on the development of electronic color scanners and electronic engravers for the Graphic Arts was provided by Samuel W. Levine, Fairchild Graphic Equipment, Inc.

The speaker opened his talk by justifying the use of electronics in color scanning and platemaking. He said: "In all of the electronic type machines, line scanning is used and during the process each elemental area of the copy is illuminated. The reflected or transmitted light signal is converted into an electronic signal. Once the electronic signal has been generated, all of the computer and non-linear electronic circuitry tools are available for performing the corrections which must now be done by the skilled photographer or photoengraver. The variables in the color correction and platemaking processes can be accurately measured, and better control and correction can be introduced."

Also representing Fairchild Graphic Equipment, Inc., Monroe Farber provided a review of his company's investigation of electronic color correction during the last several years. The results, he claimed, show the feasibility of direct halftone screening of corrected color separations from transparencies.

The ability to obtain any desired reproduction characteristic curve by "tone compensation" in electronic engravers should be considered, he said, one of their greatest advantages. Also, the experience in tone compensating in black and white turns out to be extremely valuable for color work. Although Farber acknowledged that further research is needed, he envisions a practical production color computer for an electronic engraver or photoscreening machine.

The TAGA program was concluded with a report of a study of arc lamp performance given by Warren Rhodes, Rochester Institute of Technology, Rochester, N. Y.

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Space: 18" long, 6" wide—Weight: Approx. 50 lbs.

- Will cut page cost and speed production.
- Comes equipped with two different screen patterns. Either pattern can be used without making any change on machine.
- Mechanically screens the face of type-high slugs, border and hand type cast in stereotype metal.
- Manually operated, precision built and easy maintenance.
- Will take slugs up to 144 pt. condensed, borders up to 84 pt. by 72 picas, hand type up to 96 pt.

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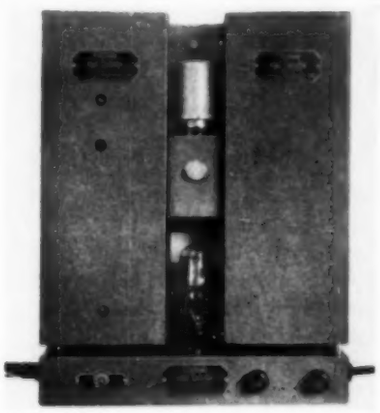
ELECTRONIC MAT DETECTOR

FOR TELETYPESETTER COMPOSITION



The Electronic Mat Detector actually pre-proofreads every mat before the line is cast. Errors due to bent or damaged matrices, dirty magazines, shortage of mats in channel, clogging of space band box chute, or faulty keyboard cam operation—none of these can occur with the Electronic Mat Detector on the job.

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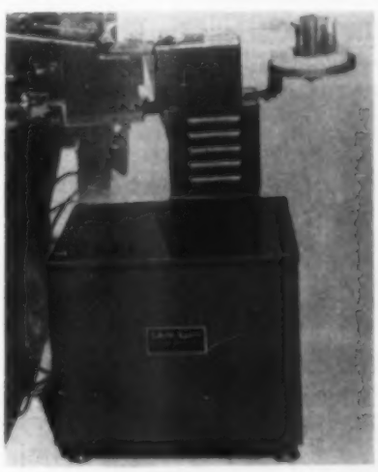
Speeds Up Production of Teletypesetter Tape 10% to 15%



Startling new electro-mechanical device enables perforator operators to signal at end of line for thin or en spaces to be inserted between each word of the line when necessary for justification.

- Eliminates rolling-back of the tape to strike the thin space signal over the spaceband signal when thin spaces are needed.
- Eliminates rubbing-out of the entire line and re-typing when en spaces are needed.
- Eliminates approximately 75% of the rub-outs.

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1. Building more folders than ever before . . . many more . . . so we can keep on pricing them fractionally, compared to other printing machinery.
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3. Extending payment-out-of-a-small-share-of-increased-earnings-plan to *36* months . . . *three* years (during that time it *will* pay for itself MANY TIMES OVER).

- The latest models are so far ahead of all folders ever built (including our own previous models). There are so many greater profit-features, for instance diagonal rollers on all cross-carriers, so sheet can be folded, then cut apart and additional folds put into each signature . . . all one operation . . . double production. I do wish our users would allow us to buy back the old models . . . will offer a sweet deal (Baumfolders always priced so low . . . depreciation so little).

Will you telephone me personally (collect) . . . WAlnut 5-8165 or wire collect.

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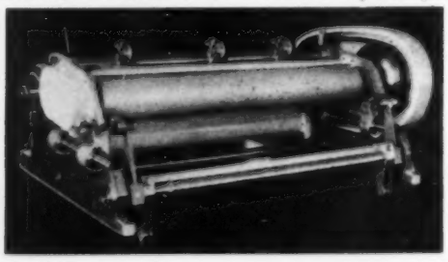
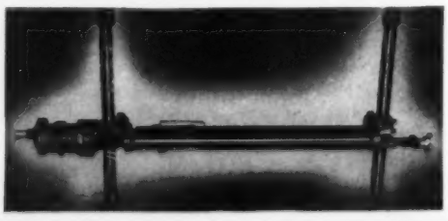
HUCK AUTOMATIC WEB CONTROLS

Completely automatic, mechanical, controls for high speed, wide web presses.

TENSION CONTROL – Carriage Type - Accurately maintains a constant predetermined tension on the web at all press speeds.



WEB SIDE REGISTER - Holds web accurately in side register at all press speeds. Corrects instantly without hunting.



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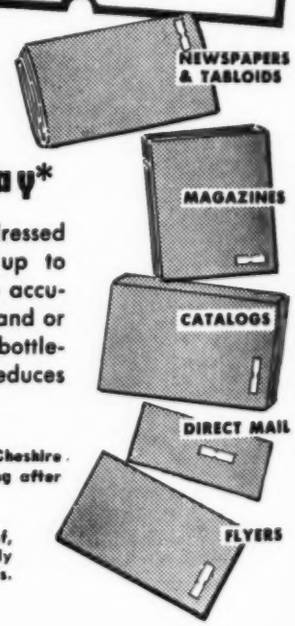

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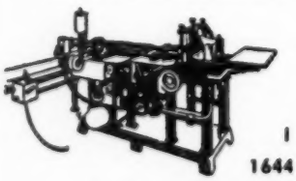

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Carnegie Seminar

(Continued from Page 63)

thinking of alibis before considering a project and are headed for failure before they begin. For example, he asked, did we come here to learn, or to justify our present procedures?

He pointed out that it is our duty to understand people and deal with them accordingly, not make them understand us. People can be divided into three major personality categories: Extroverts, ambiverts, and introverts. (These might be roughly described as people who enjoy being the center of attention, people who can take it or leave it alone, and people who shun being the center of attention.) Short said: "85% of printers are introverts."

Human engineers must think in terms of how people repair status. Two methods are encountered. The adult or mature method is by straight thinking, hard work and reflection. The childish or immature is by bragging, showing off, cynicism and possibly ill temper.

In the light of these facts of human behavior, Short concluded, it becomes apparent that it is not education that is expensive, but ignorance.

Perry Cites Pacemaker

A talk by Ren R. Perry, vice president—sales, Harris-Seybold Co., dealt with selling printing. During the course of his talk, he remarked, "the slowest machine in your shop is the pacemaker," and backed up this statement by asking the audience to recall how often other equipment in their plants had to wait for the slow one to finish an operation.

Methods Improvement

The industrial engineer must ask himself a number of questions before tackling a particular problem, said Lewis D. Fykse, manager-methods, Harris-Seybold Co., speaking on a panel discussion of *Methods*. Among them are: What is the economic feasibility of the proposal, how often does it occur, how great a volume is involved, how long will the situation last, how much time is now spent, how much planning time is available, how much equipment is involved, how much time for analysis, is it more important than something else, will any loss of sales result, will retraining be required, how much saving may result, can it be sold to the union, what personalities are involved, how will plant policies be affected, what do other personnel think of it.

Fykse outlined six stages in the application of the scientific method to problem solving: Recognize and define the problem; get all the facts, get all the rules which may become involved and create new rules if needed; research for methods to solve problems; select the best and make an experimental application; when proven, secure management approval; sell it to your organization and apply it.

Donald Sommer, who spoke previously, stressed the need for work simplification and better methods in the printing industry. He pointed out that while printing was one of the leaders of the shorter work week it lagged far behind in improving productivity.

Increasing our productivity may not be as difficult as some imagine. "I believe that many plants are ob-

RIT Offers Course for Young Printing Executives

The Dept. of Printing, Rochester Institute of Technology, is planning to offer a two week, intensive summer course in the area of printing management.

The plan involves two objectives, the first is to give those attending an orientation in printing processes and production methods assuming they have little or no technical background or experience. The second objective is to provide an overall view of management problems and procedures, supplemented by a more detailed consideration of selected areas.

Approximately three days will be spent on technical orientation in the fields of letterpress, offset and research. The balance of the two-week period will be devoted to administration and management applied to the printing industry.

The course is scheduled to run from July 29 through August 9. For further information, address Rochester Institute of Technology, Dept. of Printing, 65 Plymouth Ave., So., Rochester 8, N. Y.

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says:
Saul Lehman, President, The Georgian Press, Inc., New York City

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"Our salesmen are always equipped with the full set of Filmotype lettering catalogs. These include over 1,000 styles and sizes of Filmotype faces. And it's like having 1,000 extra salesmen! We show our customer the all-inclusive selection. He chooses the alphabet he wants. Then in production it's a matter of minutes to insert desired fonts into the Filmotype machine, set the copy and produce proofs perfect for paste-up. Filmotype gets us more printing jobs and more profit per job!"

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☐ Send information about the Filmotype Photo Composition Machine and how easy it is to own.

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taining only about half of their potential, but don't know it," declared Sommer. "It has been my experience that when management investigates the causes of poor production it invariably finds that the problem resides primarily in the management area of responsibility." He cited the case of a plant which was getting far less than rated production from a folder and which had adapted to that situation. Finally someone asked why this was so and it was discovered that the high-speed gear had been lost and never replaced.

Encourage Participation

Prof. Raymond N. Blair, Carnegie Tech's School of Printing Management, underlined the importance of encouraging everyone in the organization to participate in work simplification. This will result, he said, in both improved attitude and concrete suggestions. He told of the printer who bought a checkbook stamping machine which produced 800 gold stamped books per hr. but required 17 different motions. Some 25 employees suggested various simplifications and improvements which have thus far brought production up to 3000 books per hr.

Blair suggested a systematic method of questioning procedures as follows: Eliminate unnecessary operations, combine operations where possible, change sequence to attain shortest and most direct flow of work, and improve operations remaining.

Someone asked where he could find an industrial engineer for a printing plant. Sommer replied that you could usually find half of what you needed —either an industrial engineer with no printing background or a printer with no industrial engineering. Dean Glen U. Cleeton of Carnegie's School of Printing Management pointed to the School's new Graphic Arts Technical Option as a step towards filling this gap. Prof. Blair suggested Graphic Arts consultants could often be helpful in this respect.

It was suggested in-plant training in cooperation with a local college was useful, particularly for training plant personnel. Fykse endorsed this method and cited the case of a company specializing in short-run work which had many plate changes and consequent register problems. Convinced that the plate clamps on the press were too slow in operation, they punched holes in the offset plates, put pins in the plate cylinder and corresponding pins on the camera. They cut plates short and held the tail on with gum arabic which held for the necessary 300 impressions and increased the number of plates printed per day from 30 to 90.

He also told of a Montreal plant which bought a new 6500 i.p.h. press with no electrical controls, installed its own and ran it 8400 i.p.h. on a government form, two shifts seven days a week. Asked how this greater wear was compensated for, the reply was there was no compensation. With top maintenance the press would last five years as had its predecessor, and would then be scrapped and replaced.

To the question how close is automation, Fyske replied that electronics, hydraulics, and atomic tracers were

8 OR 9 COLUMNS? 11 Ems?

There is no question, however, about the chase.

Amsco's Combination Stereotype Chase will take either 8 or 9 columns and give the maximum in strength and durability.

A chase is more than a frame to lock type in. It is a piece of stereotype equipment that must have bolsters and/or lines to the proper specifications to work with the casting box.

If you are considering a change you may not need new chases. We may be able to rework your chases to the new size.

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. . . . Place Gauge in any position to check plate. Uniform gauging is automatically assured by mechanical pressure, independent of operator.

. . . . Two-point gauging with accurate alignment, finds the thickness of the plate instantly and shows any deviation in thickness on a fixed—not passing—reading on the dial.

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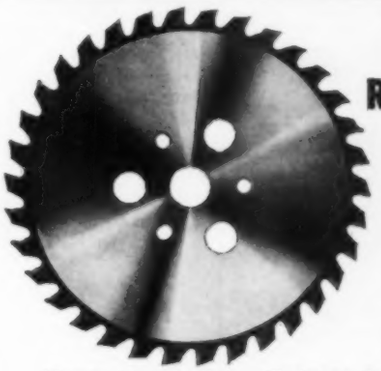

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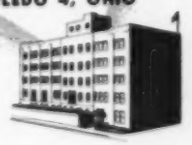

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Seybold 50" Model 10Z cutter

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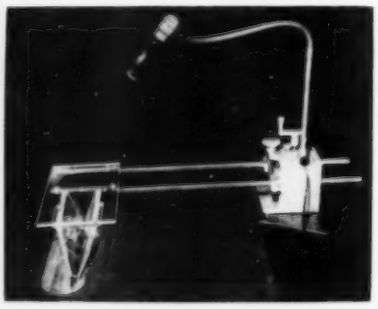

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just beginning to affect the printing machinery field. He felt the small shop would not soon be automated, but some newspapers now were more automated than the automobile industry.

Three Carnegie students, Byrne Heninger, William Siegfried and William Brown, explained the Cameron Flex-O-Pak Project, a non-existent flexible packaging plant created by the members of Asst. Dean Kenneth R. Burchard's seminar class.

Facts and Figures as Guides

To be effective, any cost control program must be continuous—not a mere periodic review. This advice was given by Morris Goldman, partner, J. K. Lasser & Co., New York, N. Y.

"The first line supervisor is the key man in any such program," said Goldman, "therefore, the facts which you develop for him should be reported in such manner that they can be understood." You must have an objective and a plan for reaching it. Your supervisor must fully understand the part he plays in reaching that objective.

Try to get information from plant employees which has some semblance to facts rather than a "guesstimate." Sound conclusions depend on starting with accurate information.

Briefly describing the causes for delays may well help to eliminate stoppages. Don't keep your information secret, remarked Goldman. See that the supervisors know about it. Do not take the initiative from supervisors and make desk clerks of them.

Also speaking on *Management's Use of Cost and Production Analysis as a Control Technique* was Henry C. De Witt, assistant to the president, Pittsburgh Technical Institute, Pittsburgh, Pa.

Lighting Now Neglected

A demonstration entitled *Magic of Color* was put on by O. C. Holland, director of advertising, Printing Ink Div., Interchemical Corp. He stressed the importance of good lighting to help the eye do its best work and lamented the fact that power companies no longer emphasized this as they once did. Three reasons why plants have inadequate lighting, he said, were: There were just not enough lights; lights were allowed to get dirty in many plants and in others, were never cleaned; lamps were almost never replaced until they burned out, at which time they had been burning several weeks at below rated illumination.

He recommended regularly checking work points with a light meter and setting a standard of at least 50 and preferably 100 ft. candles of illumination. Holland cautioned printers to watch the background carefully when running color and to be on guard against eye fatigue when matching color.

Guides To Decision

"If it were not for decisions we wouldn't need managers," stated Dr. Roy B. Eastin, executive officer, Office of the Public Printer, U. S. Government Printing Office, Washington, D. C. Decision making is important

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because so much may hinge on correct decisions; because their correctness may only be judged retrospectively; because you can't be wrong too often—and you must have good reasons.

Past performance facts and figures belong to the past, said Dr. Eastin. He referred to the motto on the National Archives Building, "What is past is prologue," which one cab driver allegedly rephrased for a tourist as "You ain't seen nothin' yet."

He also suggested, accept unpleasant reality. The timing of a decision must be right. Risks should be calculated. They attend all decisions so apply a discount factor to accommodate them.

Presensitized Plates

(Continued from Page 88)

Plate Properties

We know that when presensitized plates are exposed to heat for any length of time, the diazo coating will harden. If this hardening effect extends far enough, scumming on the press will be the result. All presensitized plates have an undercoat. Some of the manufacturers state the reason for the undercoat is to better retain the water. That may be so, but the real reason is that most diazo compounds react with the aluminum metal and therefore the undercoat. Some of the undercoats are silicate which is a very good water carrier.

Due to the extremely fine irregularities in the plate surface, some manufacturers state that the plates have no grain. Well, maybe we should not call it grain but there are irregularities in the surface. Call them by any name you want to, but for the sake of the discussion here, we will call it a very fine grain.

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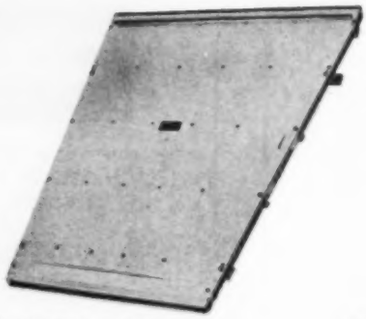

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in this type of plate we can retain an extremely fine screen and retain the detail in the negative with very little dot distortion. Besides the uniformity we can expect from the plates, due to the closely controlled conditions by which they are manufactured, there is very little variation from plate, it can much quicker and easier be neary complete desensitized the very fine grain in this type of plate, can much quicker and easier be nearly completely desensitized and, therefore, on the press (if properly handled and processed) much cleaner and not have much tendency to scum or tone in the non-printing areas.

We have three major points which we expect from an offset printing plate:

1. The non-printing area must be very receptive to water and must absolutely refuse ink.
2. The printing or image area must readily accept ink and refuse water.
3. We demand that the tone value be correct.

The presensitized plate, when properly exposed, will be more receptive to water and accept ink better than coated zinc plates, and approx. the equivalent of the bi or tri-metallic plates.

For the printing or image area, these areas in a presensitized plate will repel water and be receptive to ink better than most other offset plates. The tone value can be controlled only by using the Sensitivity Guide—and that holds true for any type offset printing plate used.

What is involved in producing a presensitized offset printing plate? Only four steps, as follows:

1. Exposure.
2. Development with a gum or acid solution.
3. Application of lacquer or developing ink.
4. Gumming.

Another question is asked repeatedly: Which is the best presensitized plate to use? This can only be answered by the individual operation. But the plate to use is the one best suited for your own work. I might determine that the Harris Lithoplate is the plate for me. You maintain that the 3M plate is the only one for you. Our neighbor to the south might say that ENCO gives him best results, while the one to the north can only use another plate. Therefore, the best plate for you is the one that gives you the best results.

Exposing the Plate

In exposing a presensitized plate, we usually shoot for greater contrast than when working with the standard coated zinc plates. The reason for obtaining this greater contrast is to take full advantage

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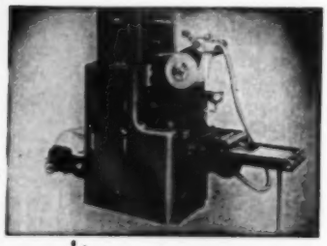

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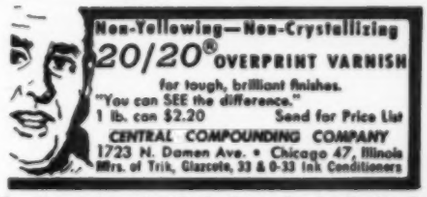
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of the property of the presensitized plate to reproduce with much greater fidelity everything we have in the negative. However, that holds true only when we compare to the zinc coated plates. Most of the bi and tri-metallic plates will give us the same fine details as will the presensitized plates. But of course the price differential will, especially for short runs, make it uneconomical to use this type of plate. We know that when using mechanically grained zinc plates, there is a tendency to lose some of the contrast present in the negative.

The exposure time of a presensitized plate, as well as any other type of light sensitive plate, will vary with the light source, and the distance from the light to printing frame. (Fig. 1) The distance from the light source to the vacuum frame should never be less than the diagonal of the glass in the printing frame, preferably 1½ times that distance. The greater the distance from the arc light to the vacuum frame, the less undercutting we will have. The distance from light to vacuum frame is very important.

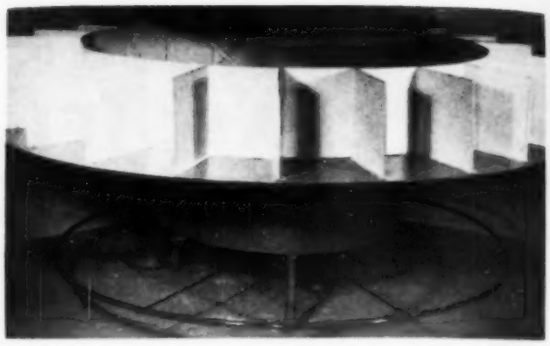
Assuming we get a good plate when Sensitivity Guide Step 8 shows up perfect with a certain light at 4 ft. distance between the arc and frame with 4 min. exposure, then, to obtain the same exposure with the same light but with a distance of 8 ft.:

First, take the square of 4 ft. = 16, then the square of 8 ft. = 64. Then divide 64 by 16 = 4. Next, multiply this number with the old exposure time which is 4 × 4 or 16 min. and that will then be the correct time.

Now what happens when we cut the distance from 4 ft. to 2 ft.? We still get a firm Step 8 on the Sensitivity Guide at the 4 ft. distance. We want to know what the correct exposure time will be at the 2 ft. distance:

First, square the 4 ft. distance = 16, then square the 2 ft. distance = 4. Now divide 4 by 16 = 0.25 × 4 = 1 min.; that would then be the correct time for the 2 ft. distance. After we have determined the proper exposure for our presensitized plate with a known light intensity, let us try to hold that as a constant. However, don't lose track of the many variables we have in our light source.

(To Be Continued)



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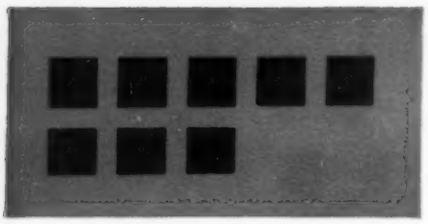

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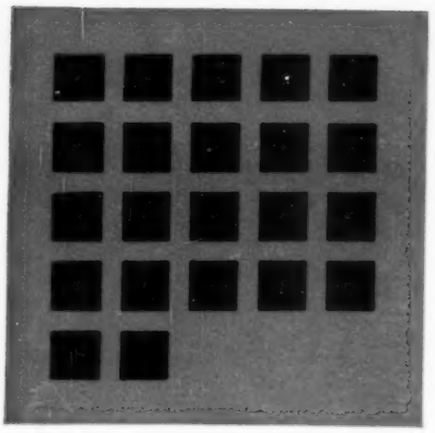

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5. Trimmer saw
6. Mitering machine
7. Slug stripper
8. Proof press
9. Bank
10. Stone
11. Galleys and galley racks
12. Form storage cabinet
13. Chases
14. Chase racks
15. Turtles
16. Stereotype humidor
17. Flat casting box
18. Metal furnace
19. Band or jig saw
20. Shaver
21. Routing machine
22. Mortising machine

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